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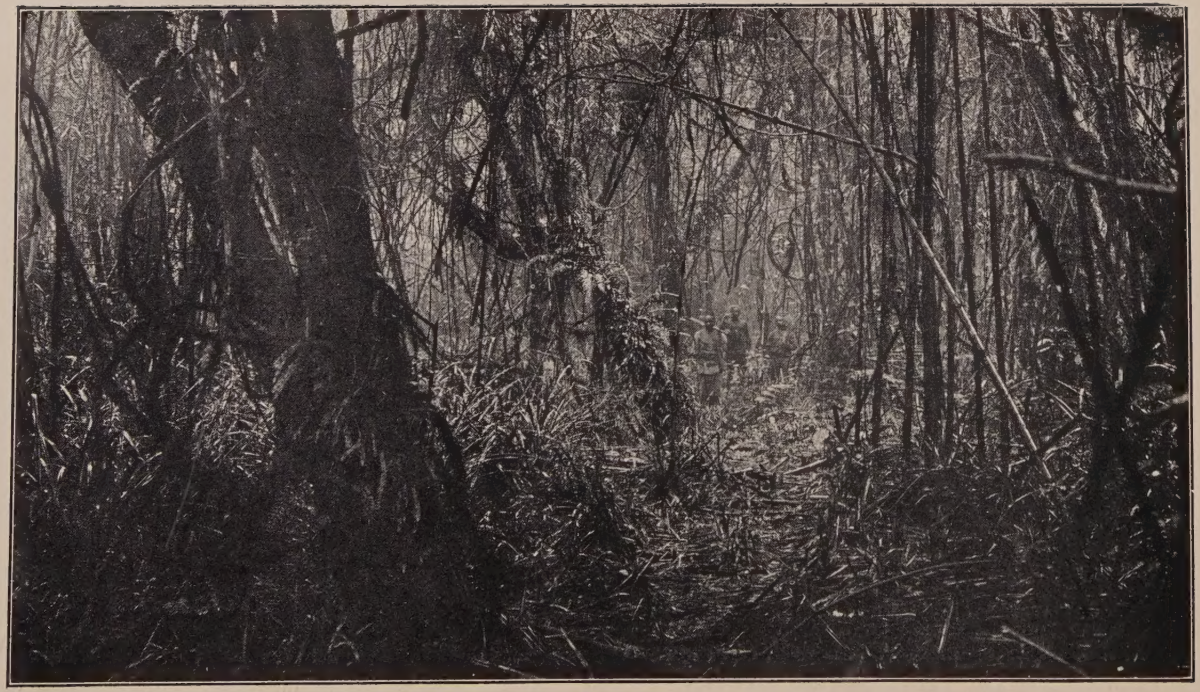

ON A TYPICAL ELEPHANT TRAIL IN THE FOREST

CARL E. AKELEY

IN BRIGHTEST AFRICA

Memorial Edition

GARDEN CITY, NEW YORK
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TO
THE MEMORY
OF
THEODORE ROOSEVELT

"He that hath drunk of Africa's fountains, will drink again."

—Old Arab Proverb

FOREWORD

I HAVE written this Foreword, not after reading the manuscript of the volume thoroughly, but after a quarter of a century acquaintance with the experiences, thoughts, and ideals of the author himself. This is the daybook, the diary, the narrative, the incident, and the adventure of an African sculptor and an African biographer, whose observations we hope may be preserved in imperishable form, so that when the animal life of Africa has vanished, future generations may realize in some degree the beauty and grandeur which the world has lost.

Sculptor and Biographer of the vanishing wild life of Africa—I do not feel that I can adequately and truthfully characterize Carl E. Akeley better than in these words. I have always maintained that he was a sculptor, that sculpture was his real vocation, in which taxidermy was an incidental element. The sculptor is a biographer and an historian. Without sculpture we should know far less of the vanished greatness of Greece than we do. Through sculpture Carl E. Akeley is recording the vanishing greatness of the natural world of Africa. We palæontologists alone realize that in Africa the remnants of all the royal families of the Age of Mammals are making

their last stand, that their backs are up against the pitiless wall of what we call civilization. Human rights are triumphing over animal rights, and it would be hard to determine which rights are really superior or most worthy to survive.

Akeley came twenty-seven years ago into the midst of this unequal contest between the flesh and blood of the animal kingdom and the steel and lead of the sportsman, of the food and ivory hunter, and his sympathies were all on the animal side in the fight. If his sympathies had been on the human side he could not be the biographer of the African vanishing world who speaks in the pages of this volume, lost in admiration of the majesty of the elephant, the unchallenged reign of the lion, the beauty and grace of the antelope, the undaunted courage of the buffalo, and, last but not least, of certain splendid qualities in the native African hunter. We know of only one other sculptor who has immortalized the African Negro in bronze; this is Herbert Ward, whose splendid life work is now in the United States National Museum.

Similarly, Carl E. Akeley's life work will be assembled in the African and Roosevelt Halls of the American Museum, in human bronzes, in a great group of the elephant, in rhinoceroses and gorillas, each group representing his unerring portrayal of the character of the animal and his sympathetic admiration of its finest qualities. It is in making close observations for these groups that he has lived so long in Africa and come very close to death on three

occasions. We may find something base in animal nature if we seek it; we may also find much that is excellent and worthy of emulation. In this respect animal nature is like human nature—we may take our choice. The decadent sculptor and the decadent writer may choose the wrong side in human nature, and the sensational writer may choose the wrong side in animal nature; Akeley has chosen the ennobling side and does not dwell on the vices either of the animals or of the natives but on their virtues, their courage, defence of their young, devotion to the safety of their families—simple, homely virtues which are so much needed to-day in our civilization.

Truthfulness is the high note of the enduring biographer of animal life as well as of human life. "Set down naught in malice, nothing extenuate" is an essential principle in the portrayal of vanishing Africa as it is in our portrayal of the contemporary manners and customs of modern society; to know the elephant, the lion, the antelope, the gorilla as they really are, not as they have been pictured by sensational writers who have never seen them at close range or who have been tempted to exaggerate their danger for commercial reasons. Akeley's work on the gorilla is the latest and perhaps his best portrayal of animal life in Africa as it really is. He defends the reputation of this animal, which has been misrepresented in narrative and fiction as a ferocious biped that attacks man at every opportunity, abducts native women as in the sculptures of Fremiet, a monster with all the vices of man and none of the

virtues. For this untruthful picture Akeley substitutes a real gorilla, chiefly a quadruped in locomotion, not seeking combat with man, ferocious only when his family rights are invaded, benign rather than malignant in countenance. Thus he explodes the age-long gorilla myth and we learn for the first time the place in nature of this great anthropoid and come to believe that it should be conserved and protected rather than eliminated. In other words, the author shows that there are good grounds for the international movement to conserve the few remaining tribes of the gorilla.

Akeley has come into closest touch with all these animals in turn, even at great personal risk, always leaving with increased rather than diminished admiration for them. This quality of truthfulness, combined with his love of beauty of the animal form—beauty of hide, of muscle, of bone, of facial expression—will give permanence to Akeley's work, and permanence will be the sure test of its greatness.

Henry Fairfield Osborn.

July 27, 1923.
American Museum.

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IN BRIGHTEST AFRICA

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CHAPTER I

A NEW ART BEGUN

AS A boy I lived on a farm near Clarendon, Orleans County, N. Y., and for some reason, about the time I was thirteen, I got interested in birds. I was out of place on the farm for I was much more interested in taxidermy than in farming. As a matter of fact, by the time I was sixteen I announced to the world that I was a taxidermist. I had borrowed a book which had originally cost a dollar, and from that book I learned taxidermy up to a point where I felt justified in having business cards printed stating that I did artistic taxidermy in all its branches. I even went so far as to take several lessons in painting from a lady who taught art in Clarendon, in order that I might paint realistic backgrounds behind the birds that I mounted. So far as I know, that was the first experiment of painted backgrounds used for mounted birds or animals. I believe that my first attempt in this direction is still in existence in Clarendon but I have been a little afraid to go to see it.

In the fall of the year in which I was nineteen, after the crops were in, I set out to get a wider field for my

efforts. There was at that time in the neighbouring town of Brockport an Englishman named David Bruce, whose hobby was taxidermy. By calling he was a painter and interior decorator—a very skilful craftsman who did special work far and wide through the country. As a recreation he mounted birds and animals for sportsmen. His office was filled with birds in cases and he was surrounded with other evidences of his hobby.

To me it seemed that he led an ideal life, for he had a successful business and one that gave him enough spare time to indulge his fancies in taxidermy. It hadn't entered my head at the time that a man could make a living at anything as fascinating as taxidermy, so I felt that the best possible solution of the problem was that which Mr. Bruce had devised. I went to see if I could get a job with him in his decorating business in order that I might also be with him in his hobby. He was most kindly and cordial. I remember that he took me out and bought me an oyster stew and told me, while we were eating, that if I came with him he would teach me all his trade secrets in painting and decorating, which he had kept even from his workmen. It seemed to me that a glorious future was settled for me then and there. If I was not in the seventh heaven, I was at least in the fifth or sixth and going up, and then my prospects became so favourable as to become almost terrifying. Mr. Bruce, after having made me such alluring offers to come with him, said that he thought I ought to go to a much better place than his shop—a place where I

might actually make a living at taxidermy. In Rochester there was a famous institution, Ward's Natural Science Establishment. At that time, and for years afterward, this establishment supplied the best museums in this country with nearly all their mounted specimens and also most of their other natural history collections. Professor Ward was the greatest authority on taxidermy of his day. It was to this place that Bruce suggested I should go. The step which he planned seemed a great venture to me, but I determined to try it. I went home from Brockport and told the family what Bruce had said and what I intended to do. I got up early next morning—I didn't have to wake up for I had hardly slept a wink—and walked three miles to the station to take the train to Rochester. When I reached there, I walked all over town before I found Ward's Natural Science Establishment and the more I walked the lower and lower my courage sank. The Establishment consisted of Professor Ward's house and several other buildings, the entrance to the place being an arch made of the jaws of a sperm whale. An apprentice approaching the studio of a Rembrandt or a Van Dyke couldn't have been more in awe than I was. I walked up and down the sidewalk in front of the Professor's house for a while until I finally gathered courage to ring the door-bell. I was admitted to an elaborately furnished room, and after a little while Professor Ward came in. It had been a long time since I had had breakfast, but he hadn't quite finished his, and this contrast seemed to increase

my disadvantages in his presence. Moreover, Professor Ward was always very busy and very brusque and was a very fierce man. Not even when a leopard sprang on me in Africa have I had a worse moment than when this little man snapped out, "What do you want?"

The last vestige of my pride and assurance was centred on my business card, and without a word I handed him this evidence of my skill and art as a taxidermist. The card seemed to justify my belief in it, for the great man asked me when I could go to work and offered me the munificent sum of $3.50 a week. I discovered a boarding house where I could get a room and my meals for $4 a week and on this basis I began to learn the art of taxidermy and to run through my slender resources.

The art of taxidermy as practised at Ward's Natural Science Establishment in those days was very simple. To stuff a deer, for example, we treated the skin with salt, alum, and arsenical soap. Then the bones were wired and wrapped and put in his legs and he was hung, upside down, and the body stuffed with straw until it would hold no more If then we wished to thin the body at any point, we sewed through it with a long needle and drew it in. Now to do this, no knowledge of the animal's anatomy or of anything else about it was necessary. There was but little attempt to put the animals in natural attitudes; no attempt at grouping, and no accessories in the shape of trees or other surroundings. The profession I had chosen as the most satisfying and

stimulating to a man's soul turned out at that time to have very little science and no art at all.

The reason for this was not so much that no one knew better. It was more the fact that no one would pay for better work. Professor Ward had to set a price on his work that the museums would pay, and at that time most museums were interested almost exclusively in the collection of purely scientific data and cared little for exhibitions that would appeal to the public. They preferred collections of birds' skins to bird groups, and collections of mammal data and skeletons to mammal groups. The museums then had no taxidermists of their own.

However, many of the prominent museum men of to-day had their early training at Ward's Natural Science Establishment. Soon after I went to Ward's another nineteen-year-old boy named William Morton Wheeler, now of the Bussey Institution at Harvard, turned up there. E. N. Gueret, now in charge of the Division of Osteology in the Field Museum of Natural History, George K. Cherrie, the South American explorer; the late J. William Critchley, who became the chief taxidermist in the Brooklyn Museum of Arts and Sciences; Henry L. Ward, director of the Kent Scientific Museum in Grand Rapids; H. C. Denslow, an artist formerly associated with several of the leading museums as bird taxidermist; William T. Hornaday, director of the New York Zoölogical Park, and Frederick S. Webster, who was the first president of the Society of American Taxidermists, were all among the friends I made in those early days.

A long list of others, not my contemporaries at that institution, but men with whom I have since been associated in museum work, might be added. Dr. Frederic A. Lucas had left Ward's shortly before my arrival to take up his duties at the Smithsonian Institution but I came to feel that I knew him very well through the stories and reminiscences of my companions. It was not until my return from my third expedition in 1911 that my delightful association with him as the director of the American Museum of Natural History was begun.

I have a theory that the first museum taxidermist came into existence in about this way: One of our dear old friends, some old-fashioned closet naturalist who knew animals only as dried skins and had been getting funds from some kind-hearted philanthropist, one day, under pressure from the philanthropist, who wanted something on exhibition to show his friends, sent around the corner and called in an upholsterer and said, "Here is the skin of an animal. Stuff this thing and make it look like a live animal." The upholsterer did it and kept on doing it until the scientist had a little more money. Given more work the upholsterer became ambitious and had an idea that these animals might be improved upon, so he began to do better work. But it took more time and cost more money so that he lost his job. Thus it has been that from the very people from whom we expected the most encouragement in the beginning of our efforts, we received the least.

I remember very well one time when an opportun-

ity came to do something a little better. A zebra was brought into the Establishment. I had been studying anatomy and I had learned the names of all the muscles and all the bones. When I saw the zebra I realized that here was an opportunity to do something good and I asked to make a plaster cast of the body. I had to do it in my own time and worked from supper until breakfast time, following out a few special experiments of my own in the process. Nevertheless, the zebra was handed out to be mounted in the old way and my casts were thrown on the dump.

I stayed at this leading institution of taxidermy for four years and while I was there we stuffed animals for most of the museums in the country, for hunters and sportsmen, and various other kinds of people, including Barnum's circus. The animal we stuffed for Barnum's circus was the famous elephant Jumbo. We had to use a slightly different method for Jumbo, not only because of his size but because he had to be made rigid and strong enough to stand being carted around the country with the circus; for this old elephant served dead as well as alive to amuse and instruct the public. As a matter of fact, he is still at it, for his skin on the steel-and-wood frame we made for it at Ward's is at Tufts College and his skeleton is at the American Museum of Natural History.

Between the time that I first went to Ward's and my last job there, which was on Jumbo, there was an intermission which I spent in the taxidermy shop of John Wallace on North William Street in New York. I roomed in Brooklyn with Doctor Funk, of Funk &

Wagnalls, and worked in the basement shop of Wallace's, and a more dreary six months I never had spent anywhere. So when Ward came after me to go back, saying that his having fired me was all a mistake due to erroneous reports that had been given him, I went, and stayed three years. During this time I got to know Professor Webster of Rochester University, who later became president of Union College, and he urged me to study to become a professor. In spite of the fact that my education had stopped early on account of a lack of funds, I set to work to prepare myself to go to the Sheffield Scientific School. But between working in the daytime and studying at night I broke down, and when examination time came I wasn't ready. However, my chances of further education, although delayed, seemed improved. At the time I was studying for the Sheffield Scientific School my friend, William Morton Wheeler, had left Ward's and was teaching in the High School in Milwaukee. He wrote and offered to tutor me if I would go out there. So I went to Milwaukee and got a job with the museum there, which was to give me food and lodging while I prepared for college. It did more than that, for it absorbed me so that I gave up all thought of abandoning taxidermy. I stayed eight years in Milwaukee, working in the museum and in a shop of my own.

Several things happened there which stimulated my interest in taxidermy. One of the directors had been to Lapland and had collected the skin of a reindeer, a Laplander's sled, and the driving parapher-

nalia, and he was anxious to have these shown in the museum. This material we turned into a group of a Laplander driving a reindeer over the snow. That was fairly successful, and we induced the museum to buy a set of skins of orang-outangs, which Charles F. Adams, another of my former colleagues at Ward's, had collected in Borneo. We arranged them in a group using some bare branches as accessories.

In making these groups we had had to abandon the old straw-rag-and-bone method of stuffing and create modelled manikins over which to stretch the skins. As soon as this point was reached several problems presented themselves, the solution of which meant an entirely new era in taxidermy. If a man was going to model a realistic manikin for an animal's skin, instead of stuffing the skin with straw, it was evident he would have to learn to model. Likewise it turned out that, even if a man knew how to model, he couldn't model an animal body sufficiently well for the skin to fit it unless he knew animal anatomy. And we found out also that making a manikin from a model was not as simple as it sounds, but that on the contrary it is about as difficult as casting in bronze, the difference being that the art of bronze casting has been developed through many years, while the art of making manikins had to be created comparatively quickly and by a very few people. We worked at these problems step by step in Milwaukee and made a good deal of progress.

The reindeer and orang-outang work encouraged me to suggest a series of groups of the fur-bearing

animals of Wisconsin, the muskrat group to be the first of the series. This suggestion was more tolerated than encouraged when it was first made, but I went as far as I could go with my dream and before I left there I finished the muskrat group, as I did most of my early experiments, in spite of the opposition of the authorities. It was the old, old story of starting a thing and having to give it up because of lack of support. But my idea won eventually. It was only a short time until my friend Wheeler was made director of the museum and from then on there was full sympathy for the plan. This was an entering wedge, and since that time group after group has been added, until now that museum has a magnificent series.

Wheeler, who had encouraged me to go to Milwaukee, also was the cause of my leaving. One year, while he was director, he went to Europe, and while abroad had a talk with Sir William Flower of the British Museum, in which Flower intimated that he would like me to go there. So I planned to quit Milwaukee and to go to London. However, I didn't immediately get any farther than Chicago. I stopped there and happened to go into the Field Museum of Natural History. It was then housed in the old art gallery of the Columbian Exposition. Professor Daniel G. Eliot was its curator of zoölogy. He offered me some taxidermy contracts on the spot and I accepted. While I was doing them he suggested that I go with him on an expedition to Africa. We started in 1896.

When we got back from that trip I continued at the

Field Museum as chief of the Department of Taxidermy. Before leaving Milwaukee I had been working on an idea of four deer groups, to be called the "Four Seasons," to show the animals in natural surroundings of spring, summer, autumn, and winter. I collected a good deal of the necessary material and put a lot of work on the project in my own shop, and finally reached a point where it became necessary for me to know whether the museum was going to want the groups or not. I approached the curator of zoölogy. He said that he would recommend the purchase of one of the four. Later I saw the president of the museum. After some discussion he asked why it was that the museum couldn't have the four groups. I gave him every assurance that it could. I spent four years on these four groups. It wouldn't take so long now but at that time we had not only to make the groups but also to perfect the methods of doing it at the same time. Four years is a long time to take on four deer groups, but the number of things in taxidermy we worked out in doing those groups made it a very full four years' work. In fact, the method finally used for mounting those deer groups is the method still in use.

Briefly, that method is this: For each animal a rough armature was made, on which a life-sized clay model was shaped just like a clay model made for casting in bronze except that to facilitate accuracy the skull and leg bones of the animal were used. This model was checked by measurements made of the dead animal in the field, by photographs, and fre-

quently by anatomical casts made in the field. The final result was a model not only of the species but of the actual animal whose skin we were going to use. All this took a lot of time, study, and money, and it was quite a different thing from stuffing a skin with rags and straw. For a temporary effect the skin could be mounted on the clay model, but an animal so mounted would deteriorate. For permanent work it was necessary to devise some light, durable substance, which would not be affected by moisture, to take the place of the clay of the manikin. After a lot of experimentation I came to the conclusion that a papier-mâché manikin reënforced by wire cloth and coated with shellac would be tough, strong, durable, and impervious to moisture. It isn't possible to model papier-mâché with the hands as one moulds clay, so the problem resolved itself into making a plaster mould of the clay model and then using that to build the papier-mâché manikin. When a man wishes to make a bronze in a mould he can pour the melted metal into the mould and when it has cooled remove the mould. But you can't pour papier-mâché reënforced with wire cloth and if you put it into a plaster-of-paris mould it will stick. The solution of this difficulty struck me suddenly one day when I was riding into town to go to the museum.

"I've got it!" I exclaimed, to the amusement of my friends and the rest of the car full of people. As soon as I could get to my shop I tried it and it worked. It was to take the plaster moulds of the clay model and coat the inside of them with glue. On this glue

I laid a sheet of muslin and worked it carefully and painstakingly into every undulation of the mould. On this went thin layers of papier-mâché with the wire cloth reënforcement likewise worked carefully into every undulation of the mould. Every layer of the papier-mâché composition was carefully covered with a coating of shellac so that each layer, as well as the whole, was entirely impervious to water. For animals the size of a deer two layers of reënforced composition give strength enough. For animals the size of an elephant four are sufficient and four layers are only about an eighth of an inch thick. When the final coat of shellac was well dried I immersed the whole thing in water. The water affected nothing but the thin coating of glue between the mould and the muslin. That melted and my muslin-covered, reënforced papier-mâché sections of the manikin came out of the plaster mould clean and perfect replicas of the original clay model. The four sections of the manikin were assembled with the necessary leg irons and wooden ribs and the whole was ready for the skin.

The combination of glue and muslin was the key to the whole problem. The manikin so made is an absolutely accurate reproduction of the clay model, even more accurate than bronze castings for there is no shrinkage. The manikin of a deer so constructed weighs less than thirty pounds, but it is strong enough to hold a man's weight. I have sat on the back of an antelope mounted in this manner and done it no harm. Moreover, it is entirely made of clean and

durable materials. There is nothing to rot or shrink or to cause shrinkage or decay in the skin. Of the animal itself only the shells of the hoofs and horns, and the skin are used, and the skin is much more carefully cleaned and tanned than those of women's furs. An animal prepared in this way will last indefinitely. This was a long step from the methods we used at Ward's of filling a raw skin with greasy bones of the legs and skull and stuffing the body out with straw, excelsior, old rags, and the like.

I believe that there has not yet been devised a better method of taxidermy than that described here and its use has become almost universal. Although it does not take much time to tell about it, the mounting of an animal in this way is a long and tedious process. Moreover, it is hard work. Consequently, but few of the people using it do a thoroughly constructed manikin. In an attempt to save time and money cheaper processes are resorted to and many animals, mounted by methods that only approximate that which I have evolved, fail to show good results. When the method was first introduced at the American Museum of Natural History, the authorities objected to its expense, and to cut down the cost a light plaster cast, believed to be "just as good," was substituted for the manikin. Many specimens mounted in this manner have since been thrown on the dump heap.

I finally got the four deer groups finished and the Field Museum bought them at the price agreed upon. When I figured it out financially I found that I had

come out even on my expenditures for labour and materials but for my own time and for profit there was nothing. However, I had the experience and the method and I felt that it was a pretty good four years' work.

In the old days at Ward's a taxidermist was a man who took an animal's skin from a hunter or collector and stuffed it or upholstered it. By the time I had finished the deer groups I had become pretty well convinced that a real taxidermist needed to know the technique of several quite different things.

First, he must be a field man who can collect his own specimens, for other people's measurements are never very satisfactory, and actual study of the animals in their own environment is necessary in making natural groups.

Second, he must know both animal anatomy and clay modelling in order to make his models.

Third, he should have something of the artistic sense to make his groups pleasing as well as accurate.

Fourth, he must know the technique of manikin making, the tanning of skins, and the making of accessories such as artificial leaves, branches, etc.

With all these different kinds of technique in taxidermy it is obvious that if a man attempts to do practically everything himself, as I did in the deer groups, taxidermy must be a very slow process—just as if a painter had to learn to make his own paint or a sculptor to cast his own bronzes or chisel his concepts out of granite or marble.

The proper care of the skins in the field is itself a

subject of infinite ramifications. I remember, for instance, my experience in skinning the first elephant that I killed. I shot him in the early afternoon. I immediately set to work photographing and measuring him. That took about an hour, and then I set to the serious work of getting off his skin. I worked as rapidly as I could, wherever possible using the help of the fifty boys of my *safari*, and by strenuous efforts finished taking the skin off and salting it by breakfast time the next morning. And that was not quick enough. Before I got all the skin off the carcass some of it on the under side had begun to decompose and I lost a little of it. This was a particularly difficult beast to skin because he had fallen in a little hollow and after skinning the exposed side of him all the efforts of the fifty black boys to roll him over, out of the depression, so that we could easily get at the other side, failed. After I had had more practice, I was able to photograph, measure, and skin an elephant and have his hide salted in eight hours. But then the work on the skin was only begun. A green skin like this weighs a ton and a quarter and in places is as much as two and a half inches thick. There is about four days' work in thinning it. I have had thirty or forty black boys for days cutting at the inside of the skin in this thinning process or sharpening the knives with which they did the work.

When it is finally thinned down, thoroughly dried and salted, it presents another problem. Moisture will ruin it. Salt, the only available preservative, attracts moisture. It isn't possible to carry zinc-

lined cases into the forests after elephants. I tried building thatched roofs over the skins but it was not a success. I speculated on many other plans but none appeared feasible. Finally Nature provided a solution for the difficulty.

There are, in the elephant country, many great swarms of bees. I set the natives to work collecting beeswax which is as impervious to moisture as shellac. I melted the wax and used it to coat unbleached cotton cloth, known in East Africa as Americana. In this water-tight, wax-covered cloth I wrapped my dried and salted rolls of skins and packed them on the porters' heads down to the railroad.

As a matter of fact, field conditions make it so difficult to care for skins properly that only a very small percentage ever reach a taxidermy shop in perfect condition.

Similarly the measurement of animals for taxidermy presents many difficulties. The size of a lion's leg, for instance, measured as it hangs limp after the animal's death is not accurate data for the leg with the muscles taut ready for action. Nor is an animal's body the same size with its lungs deflated in death as when the breath of life was in its body. All these things must be taken into account in using measurements or even casts to resurrect an animal true to its living appearance.

My work on the deer groups impressed me with the fact that taxidermy, if it was to be an art, must have skilled assistance as the other arts have. I began to dream of museums which would have artist-naturalists

who would have the vision to plan groups and the skill to model them and who would be furnished with skilled assistance in the making of the manikins and accessories and in the mounting of the animals. And it seemed as if the dream were about to come true. About this time I had a conference with Dr. Herman Bumpus, then director of the American Museum of Natural History in New York. He told me that he had then at the museum a young man named James Clark who could model but who did not know the technique of making manikins and mounting animals. The result of our talk was that Clark came out to my shop in Chicago and together we went through the whole process, mounting a doe which now stands in the American Museum. But the old museum trouble broke out again. It cost a lot to mount animals in the method which Clark brought back. So there was pressure to reduce the cost and, under this pressure, the methods, in the words of O. Henry, "were damaged by improvements." However, in the course of time it was demonstrated that while it often happens that an honest effort to make a thing better often makes it cheaper also, an effort merely to cheapen a thing very seldom makes it better.

In the meanwhile, in 1905, I went to Africa again, to collect zoölogical material for the Field Museum.

Again, in 1909, I went, this time for the American Museum of Natural History. I stayed two years, studying elephants, lions, and lion spearing. When I got back and set to work mounting the elephant group in the American Museum in New York, I dis-

covered that with these hairless skins there was opportunity for a little simplification of the method used in the deer groups. It was possible actually to model the skin on the clay manikin, only in this case the clay manikin was for convenience in three pieces. A layer of plaster of paris was then laid on outside the skin to hold it firmly in shape. Then the clay removed from the inside was replaced with a layer of plaster. Thus every detail of the skin was held firmly in the matrix of plaster until it was thoroughly dried, when the plaster was removed from the inside and replaced with succeeding layers of wire cloth and shellaced papier-mâché, making the skin an integral part of the manikin. In other words, the skin functioned practically as does the muslin in the manikins made for haired animals. When this was done the plaster mould was taken off the outside and the clean, light, durable half-sections of elephants were put together.

When I got back from Africa in 1911 I was dreaming of a great African Hall which would combine all the advances that had been made in taxidermy and the arts of museum exhibition and at the same time would make a permanent record of the fast-disappearing wild life of that most interesting animal kingdom, Africa.

CHAPTER II

ELEPHANT FRIENDS AND FOES

I HAVE sat in the top of a tree in the middle of a herd a quarter of a mile from a native village in Uganda in a last desperate effort to inspect the two hundred and fifty elephants which had been chevying me about so fast that I had not had a chance to see whether there were any desirable specimens among them or not. I have spent a day and a night in the Budongo Forest in the middle of a herd of seven hundred elephants. I have stood on an ant-hill awaiting the rush of eleven elephants which had got my wind and were determined to get me. I have spent a day following and fighting an old bull which took twenty-five shots of our elephant rifles before he succumbed. And once also I had such close contact with an old bull up on the slopes of Mt. Kenia that I had to save myself from being gored by grabbing his tusks with my hands and swinging in between them.

I have spent many months studying elephants in Africa—on the plains, in the forests, in the bamboo, up on the mountains. I have watched them in herds and singly, studied their paths, their feeding grounds, everything about them I could, and I have come to the conclusion that of all the wild animals on this earth

now, the African elephant is the most fascinating, and that man, for all the thousands of years he has known of elephants, knows mighty little about him. I am speaking only of the African elephant. He has not been domesticated as his Indian cousin has. The two are different in size and different in shape and different in habits. The low point of an African elephant's back line is the highest point of that of the Indian elephant. The African elephant's ears and tusks are larger, and his tusks usually spread wider at the points instead of coming together. Unless one studies him in his native haunts, one cannot get to know him. His disposition is held to be wilder than that of the Indian elephant, but the infrequency of his appearance in circuses and in zoölogical parks may be attributed to the ease with which tamed elephants may be obtained from India rather than to a difference of temper in the two beasts. An African elephant at Washington and one in the Bronx zoological park are the only ones I know of in this country, and no animal in captivity can give one more than a slight idea of his natural habits in his jungle home.

Very few people have studied African elephants in the field. Ninety-five per cent. of those who have followed them have been purely hunters and their desire has been, not to study, but to shoot—to see the elephant the shortest possible time. Time to judge the ivories and get a bead on the brain was all that they wanted. Of other elephant knowledge all that they needed was the simple facts of how to follow and

find them. The comparatively few men who have tried to study the elephant have not gained as much knowledge as one would imagine, because without trying it one cannot realize how extremely difficult it is to study the live African elephant.

For example, as I said before, I spent a day with seven hundred elephants in the Budongo Forest, but although I heard them all the time and was very acutely conscious that they were near me, I do not believe that I actually had my eyes on an elephant more than half an hour, all told, during the day. It happened this way.

One night about dark, after a week or two of hunting, we heard the squeal of an elephant while we were sitting at dinner. A little later there were more squeals and occasional trumpeting—more and more, clearer and clearer—and by the time we had finished dinner the noise was only a mile or so away. It was a continuous row which suggested a tremendous herd. We went to bed early with elephants getting closer to camp all of the time. There is little danger of elephants attacking a camp, and, as there is no way to study them at night, about the only thing left to do was to go to bed and get in good shape for the next day. Along about midnight Mrs. Akeley came over to my tent and said that she had loaded my guns and that they were all ready. She could not sleep; so she went out to sit by the fire. The elephants were then within a hundred yards of our tents and there was a continuous roar made up of trumpetings, squealing, and the crashing of bushes and trees.

A BIG SPECIMEN IN THE FIELD

To photograph, measure, and skin an animal the size of this one requires eight or ten hours of work even with the assistance of forty or fifty negro boys

MR. AKELEY'S SAFARI LADEN WITH ELEPHANT SKINS

I got up in the morning and had breakfast before daybreak. The elephants had moved on down the edge of the forest. What had been a jungle of high grass and bush the day before was trampled flat. There were at least seven hundred elephants in the herd—government officials had counted them on the previous day as they came down. I followed the trails to the edge of the forest but saw none. I started back to cross a little *nullah* (a dry water course), but felt suspicious and decided to look the situation over a little more closely. I ran up on a sloping rock and, almost under me on the other side, I saw the back of a large elephant. Over to one side there was another one, beyond that another, and then I realized that the little *nullah* through which I had planned to pass was very well sprinkled with them. I backed off and went up to a higher rock to one side. Elephants were drifting into the forest from all directions. The sun was just coming up over the hills and was shining upon the forest, which sparkled in the sunlight—morning greetings to the forest people. The monkeys greeted one another with barks and coughs. Everything was waking up—it was a busy day. There was not a breath of air. I had gone back a million years; the birds were calling back and forth, the monkeys were calling to one another, a troop of chimpanzees in the open screamed, and their shouts were answered from another group inside the forest. All the forest life was awake and moving about as that huge herd of elephants, singly and in groups, flowed into the forest from the plain. There was one

continuous roar of noise, all the wild life joining, but above it all were the crashing of trees and the squealing of the elephants as they moved into the forest on a front at least a mile wide. It was the biggest show I ever saw in Africa.

Then an old cow just at the edge of the forest suddenly got my wind, and wheeling about, she let out a scream. Instantly every sound ceased, everything was quiet. The monkeys, the birds—all the wild life—stopped their racket; the elephants stood still, listening and waiting. For a moment I was dazed. The thought came through my mind—"What does it all mean? Have I been dreaming?" But soon I heard the rustling of the trees as though a great storm were coming. There was no movement of the air, but there was the sound of a wind storm going through a forest. It gradually died away, and I realized that the elephants had made it as they moved off. It was the rustling of the dry leaves on the ground under their feet and the rubbing of their bodies through the dried foliage of the forest. I never heard a noise like that made by elephants—before or since. The conditions were unique, for everything was thoroughly parched, and there had not even been a dew. Ordinarily, if there is any moisture, elephants when warned can travel through a forest without the slightest noise. In spite of their great bulk they are as silent and sometimes as hard to see in their country as a jack rabbit is in his. I remember on one occasion being so close to an old cow in the jungle that I could hear the rumbling of her stomach, and yet when she

realized my presence the rumbling ceased, as it always does when they are suspicious, and she left the clump of growth she was in without my hearing a sound.

But going back to the big herd. From the time I had seen the first elephant until the last of them disappeared in the forest it had been perhaps fifteen minutes—fifteen minutes in which to see the sight of a lifetime, a thing to go to Africa a dozen times to get one glimpse of. But what did I learn about the habits of the elephant in that fifteen minutes? A little perhaps but not much. It takes a long time and much patience to get at all intimate with old Tembo, as the Swahilis call him, on his native soil.

After the herd disappeared in the forest I watched for ten or fifteen minutes and heard the squeal of the elephants and the noise of the monkeys again. Their suspicions were over. I followed into the forest where the trails showed me that they had broken up into small bands. I followed along on the trail of one of these bands until I got a glimpse of an elephant about fifty yards ahead of me in the trail. You don't see a whole elephant in the forest. What you do see is just a glimpse of hide or tusk or trunk through the trees. And if you want to get this glimpse without disturbing him you must do your glimpsing from down the wind.

There was a little open space ahead of the group I was following. I worked around until I got to a place where I could see them as they passed through this open space. They were moving along slowly,

feeding. Two or three came out into the opening, then they became suspicious and wheeled into the forest again. I followed cautiously. I had gone only a short distance when I saw a very young calf about twenty yards ahead of me. As I halted, the mother came trotting back down the trail looking for the baby. I froze to the side of a tree with my gun ready. She came to the baby and turning, boosted it along with her trunk after the rest of the herd. I followed along after them into an opening where I found them rounded up in a patch of burned-over ground. They were milling around in a rather compact mass seemingly preparing for defence. I could not see very plainly, for a cloud of dust rose from the burned ground as they shuffled about. I stood watching them a little time and suddenly caught sight of a fine tusk—an old bull and just what I wanted for the group I was working on for the Museum of Natural History. I ran up behind a bush at the edge of the clearing and peeked through it. There, not more than twenty yards from me, was my bull, partially exposed and partially covered by the other animals. I could not get a shot at his brain as he was standing, but the foreleg on my side was forward exposing his side so that I had a good shot at his heart—a shot I had never made before. The heart is eighteen or twenty inches long and perhaps a foot up and down—a good mark in size if one's guess at its location is accurate. If you can hit an elephant's vertebræ and break his back you can kill him. You can kill him by hitting his heart, or by hitting his brain. If you

hit him anywhere else you are not likely to hurt him much and the brain and heart shots are the only safe bets. I fired at his heart with both barrels and then grabbed my other gun from the gun boy, ready for their rush, but the whole herd, including the old bull, made off in the other direction, raising a cloud of dust. I ran around and climbed an ant-hill four or five feet high to keep them in sight.

When I caught sight of them they had gone about fifty yards and had stopped. And then I *did* learn something about elephants. My old bull was down on the ground on his side. Around him were ten or twelve other elephants trying desperately with their trunks and tusks to get him on his feet again. They were doing their best to rescue their wounded comrade. They moved his great bulk fifteen or twenty feet in their efforts, but were unable to get him up. I don't know of any other big animals that will do this. I had heard stories that elephants had the chivalry to stick by their wounded and help them, but I was never sure myself until I had actually seen this instance. Some time later Major Harrison, a very experienced elephant hunter and a keen observer, told me of an even more remarkable instance that he had seen. He was shooting in the Congo and came upon four big bulls. One he killed and another he wounded. The wounded one went down but the two survivors helped him regain his feet, and with one on each side helping him the three moved off. Although Major Harrison followed the rest of the day he was not able to catch up with them.

I did not see the end of their efforts to raise the bull I had shot, for those that were not helping him began to circle about with their ears out to hear anything of their enemy and with their trunks up feeling for my wind. They were moving in ever-increasing circles which threatened to envelop my ant-hill, and I beat a hasty retreat. Not long after they evidently were convinced that the bull was dead and all together they moved away. I then went to the body. He was dead, but as we approached there was a reflex action which twitched his trunk from time to time. This frightened the gun boys so that I went up and slapped the elephant's eye, the customary test, and as there was no reaction the boys were convinced. When I looked the carcass over I was disappointed to find that only one of his tusks was big and well developed. The other was smaller, and out of shape from an injury; consequently I decided not to take him for the museum group. He was, however, a good deal of a temptation, for he was one of the largest elephants I had ever seen, measuring eleven feet four inches to the top of his shoulders, and the circumference of his front foot was sixty-seven and a half inches. To the best of my knowledge this is a record size by about four inches. I did not even skin him but contented myself with taking his tusks, which I sold for nearly $500 without even going down to Nairobi.

The phenomenon of elephants helping each other when wounded is not general by any means. Only a few days after shooting the big bull I had an instance

of elephants abandoning one of their number that was wounded and not very badly wounded, either.

I had gone into the forest again, and had come upon another bunch in very thick country. I could only get little glimpses of a patch of hide or ivory once in a while. After working along with them for a while in the hope of getting into more open ground I tried the experiment of beating on the tree trunks with sticks. This was new to them as it was to me. I felt sure it would make them run but I wasn't sure whether they would go toward it or away from it. Happily they bolted from the forest into the high grass, grumbling all the while. I followed as closely as I dared until finally, in hope of getting a view over the top of the high grass, I started to climb a tree. Just then they rushed back into the forest, fortunately to one side of me. I thought it was time to quit, so we started back to camp. At that moment I heard another group of elephants. They were coming out of the forest into the grass. I climbed up an ant-hill where I could see them as they passed over a ridge. There were eleven of them and not a specimen that I wanted among them. I stood watching to see what would happen next. They were about three hundred yards away when they got my wind. Back they came, rumbling, trumpeting, and squealing. I knew that I had trouble on my hands. The only thing for me to do was to stick, for if I got down in the tall grass I couldn't see anything at all. They came up over a hill, but they were not coming straight toward me and it looked as if they would pass me at

forty or fifty yards; but, unfortunately, the cow in front saw me standing in full view on my ant-hill pedestal. They turned straight at me. When the leading cow was as close as I wanted her to get—about twenty-five yards—I fired. She hesitated but again surged on with the others. A second shot knocked her down. The rest surged past her, turned, smelled of her, and ran off into the forest. After a few minutes she got upon her feet and rather groggily went off after them.

Elephants have the reputation of having very bad eyesight. I personally am of the opinion that their sight is pretty good, but on this subject, as on most others about elephants, information is neither complete nor accurate. But my experience makes me think that they can see pretty well. In this case the cow that saw me was only about fifty yards away, but at another time on the Uasin Gishu Plateau an elephant herd charged me from 250 yards with the wind from them to me. The behaviour of this particular herd gave me a clue to their reputation for bad eyesight. The elephant is not afraid of any animal except man, and consequently he is not on the alert for moving objects as are animals that are hunted. Neither does he eat other animals, so he is not interested in their movements as a hunter. In fact, he isn't normally particularly interested in moving objects at all. He pays no attention. When we first came up with this herd on the Uasin Gishu Plateau we could move around within fifty yards of them without attracting their attention. However, after

they got our wind and recognized us as enemies, they were able to see us at a distance of 250 yards, and charge us.

But however good the elephant's sight, it is nothing in comparison with his smelling ability. An elephant's trunk is probably the best smelling apparatus in the world, and he depends on his sense of smell more than on any other sense. When he is at all suspicious he moves his trunk around in every direction so that he catches the slightest taint in the air, from whichever way it comes. I have often seen elephants, when disturbed, with their trunks high in air reaching all around for my wind. I likewise, on one occasion, had an intimate view of a very quiet smelling operation by which an old cow escaped me. I was on an elephant path one day on Mt. Kenia looking for an elephant I had heard, when my gun-bearer gripped my shoulder and pointed into the forest. I looked and looked but could see nothing but the trees. Finally I noticed that one of the trees diminished in size toward the ground and I recognized an elephant's trunk. My eyes followed it down. At the very tip it was curled back, and this curled-back part, with the nostrils distended, was moving slowly from side to side quietly fishing for my wind. She was waiting concealed beside the trail to pick me up as I came along. She was no more than forty feet away, but when she decided to give up and moved away, I could not hear her going although it was a dense forest and she was accompanied by two youngsters. Very often in the forest where there is very little air stirring

it is hard to tell the direction of the wind. I used to light wax taper matches as tests, for they could be struck without any noise and the flame would show the direction of the slightest breath of air.

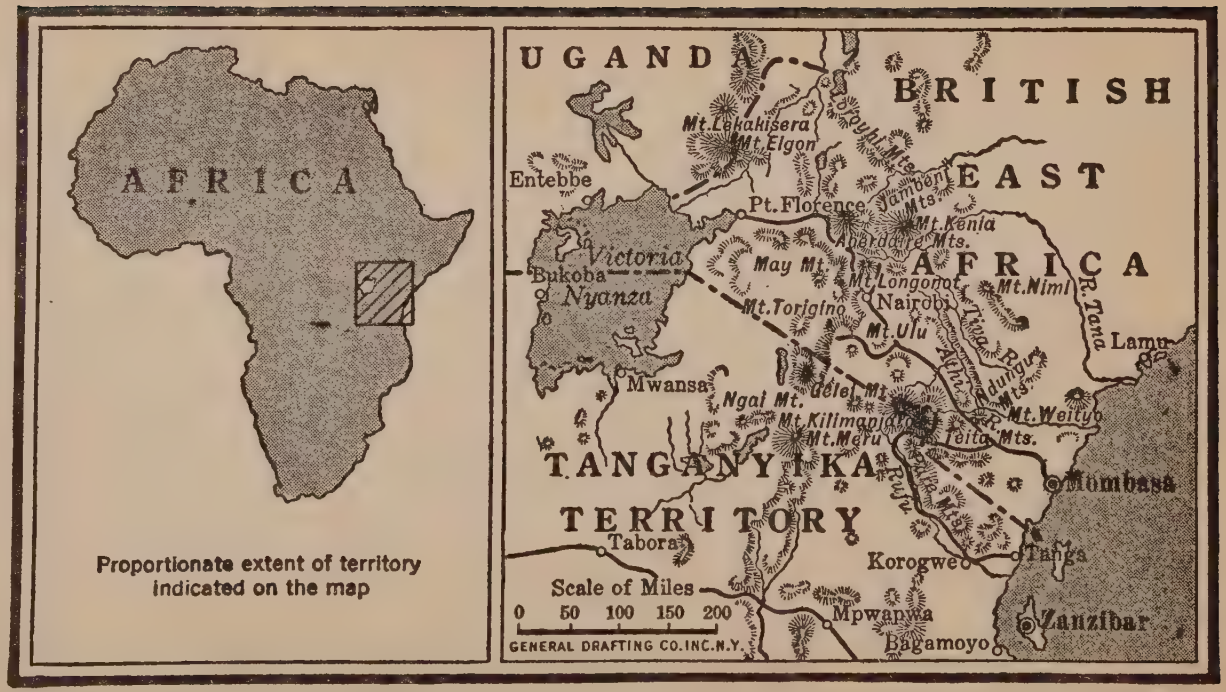
In many other ways besides its smelling ability the elephant's trunk is the most extraordinary part of this most extraordinary animal. A man's arm has a more or less universal joint at the shoulder. The elephant's trunk is absolutely flexible at every point. It can turn in any direction and in whatever position it is, and has tremendous strength. There is no bone in it, of course, but it is constructed of interwoven muscle and sinew so tough that one can hardly cut it with a knife. An elephant can shoot a stream of water out of it that would put out a fire; lift a tree trunk weighing a ton and throw it easily; or it is delicate enough to pull a blade of grass with. He drinks with it, feeds himself with it, smells with it, works with it, and at times fights with it. Incidentally, a mouse that endeavoured to frighten an elephant by the traditional nursery rhyme method of running up his trunk would be blown into the next county. There is nothing else like an elephant's trunk on earth.

And for that matter, there is nothing else like the elephant. He has come down to us through the ages, surviving the conditions which killed off his earlier contemporaries, and he now adapts himself perfectly to more different conditions than any other animal in Africa.

He can eat anything that is green or ever has been green, just so long as there is enough of it. He can

get his water from the aloe plants on the arid plains, or dig a well in the sand of a dry river bed with his trunk and fore feet, and drink there, or he is equally at home living half in the swamps of better-watered regions. He is at home on the low, hot plains of the seacoast at the equator or on the cool slopes of Kenia and Elgon. So far as I know, he suffers from no contagious diseases and has no enemies except man. There are elephants on Kenia that have never lain down for a hundred years. Some of the plains elephants do rest lying down, but no one ever saw a Kenia elephant lying down or any evidence that he does lie down to rest. The elephant is a good traveller. On good ground a good horse can outrun him, but on bad ground the horse would have no chance, and there are few animals that can cover more ground in a day than an elephant. And in spite of his appearance, he can turn with surprising agility and move through the forest as quietly as a rabbit.

An elephant's foot is almost as remarkable as his trunk. In the first place, his foot is encased in a baglike skin with a heavy padded bottom, with some of the characteristics of an anti-skid tire. An elephant walks on his toes. His toes form the front part of his foot and the bones of his foot run not only back but up. Underneath these bones at the back of his foot is a gelatine-like substance, which is a much more effective shock absorber than rubber heels or any other device. One of the curious things about this kind of a foot is that it swells out when the weight is on it and contracts when the weight is removed.



A map of the elephant country showing Mt. Elgon and Mt. Kenia, on whose slopes Mr. Akeley has hunted elephants. It was on Mt. Kenia that Mr. Akeley was mauled by an old bull

As a consequence an elephant may sink four feet into a swamp but the minute he begins to lift his legs, his feet will contract and come out of the hole they have made without suction. The elephant's leg, being practically a perpendicular shaft, requires less muscular effort for him to stand than it does for ordinary animals. This is one of the reasons why he can go for a century without lying down.

A country that elephants have long inhabited takes on some of the particular interest of the animals themselves. I believe that before the white man came to East Africa the elephant was nearly as much a plains animal as a forest animal, but he now tends to stay in the forests where the risk is not so great. On the plains there are no elephant paths now, if there ever were, for in open country elephants do not go in single file. But in the forests there are elephant paths everywhere. In fact, if it were not for the elephant paths travel in the forest would be almost impossible, and above the forests in the bamboo country this is equally true. One travels practically all the time on their trails and they go everywhere except in the tree ferns. Tree fern patches are not very extensive, but I have never seen an elephant track or an elephant in them. The elephants are constantly changing the paths for various reasons; among others, because the natives are in the habit of digging elephant pits in the trails. But there are some trails that have evidently been used for centuries. One time we had followed a band of elephants on the Aberdare Plateau and had devilled them until they

began to travel away. We followed until the trail led through a pass in the mountains and we realized that they were going into a different region altogether. That trail in the pass was a little wider than an elephant's foot and worn six inches deep in the solid rock. It must have taken hundreds of years for the shuffling of elephants to wear that rock away.

At another place on Kenia I found an elephant passage of a stream where the trail was twenty feet wide. Single paths came in from many directions on one side of the stream and joined in this great boulevard, which crossed the stream and broke up again on the other side into the single paths radiating again in every direction. In many places where the topography of the ground is such that there is only one place for a trail there will be unmistakable evidence that the trails have stayed in the same place many years—such as trees rubbed half in two by the constant passing of the animals or damp rocks polished by the caress of their trunks. And along all the trails, old and new, are elephant signs, footprints, dung, and gobs of chewed wood and bark from which they have extracted the juices before spitting them out.

But finding the elephants is not so frequent or easy as the multiplicity of the signs would indicate. One reason is that the signs of elephants—tracks, rubbed trees, and so forth—are more or less enduring, many of them being very plain in places where the elephants have not been for months or even years. If, however, you come on fresh elephant tracks, not more than a

day old, you can usually catch up with the elephants, for as they feed along through the country they do not go fast. Only if they are making a *trek* from one region to another it may take much longer to catch them.

Once up with an elephant, if you are shooting, you are pretty sure that, even if he is charging you, a bullet from an elephant gun, hitting him in the head, will stop him even if it does not hit him in a vital spot. Moreover, if you stop the leader of a bunch that is charging you, the bunch will stop. I never heard of a case in which the leader of an elephant charge was stopped and the others kept on, and I doubt if we ever will hear of such a thing, for if it does happen there won't be any one to tell about it. It is unusual for an elephant to keep on after being hit even if the hit does not knock him down. The old cow that charged me at the head of ten others was rather the exception to this rule, for after my first shot stopped her she came on again until my second shot knocked her down. But I had one experience that was entirely at variance with this rule. One old bull took thirteen shots from my rifle and about as many from Mrs. Akeley's before he was content either to die or run away.

In Uganda, after six months in the up-country after elephants, we decided to go down to the Uasin Gishu Plateau for lion spearing, for the rainy season was beginning and the vegetation growing so thick that elephant hunting was getting very difficult. On the way down we came one morning upon the fresh trail

of a herd of elephants. We followed for about two hours in a high bush country over which were scattered clumps of trees. Finally we came upon the elephants at the time of their mid-day siesta. The middle of the day is the quietest time of the twenty-four hours with elephants. If they are in a herd, they will bunch together in the shade. They do not stand absolutely still, but mill about very slowly, changing positions in the bunch but not leaving. They are neither feeding nor travelling but, as nearly as they ever do, resting. I even saw a young bull once rest his tusks in the crotch of a tree during this resting period. We got up to within twenty-five yards of them behind some bushes down the wind. We finally decided upon one of the bulls as the target. Mrs. Akeley studied carefully and shot. The bull went down, apparently dead. Ordinarily, we should rush in for a finishing shot, but in this case the rest of the herd did not make off promptly, so we stood still. When they did go off we started toward the apparently dead animal. As we did so, he got upon his feet and, in spite of a volley from us, kept on after the herd. We followed, and after half an hour's travel we caught sight of him again. We kept along behind him, looking for a place where we could swing out to one side and get abreast to fire a finishing shot at him. He was moving slowly and groggily. It was hard to move anywhere except in his trail without making a noise, and I suddenly discovered that the trail was turning so that the wind was from us to him.

Immediately we swung off to one side, but it was too

late. I didn't see him when he got our wind but I knew perfectly he had it for there was the sudden crash of his wheel in the bushes and a scream. An elephant's scream is loud and shrill and piercing. And it is terrifying, too—at least to any one who knows elephants—for it means an angry animal and usually a charge. Then came a series of grunts and rumblings. A second or two later he came in sight, his ears spread out twelve feet from tip to tip, his trunk up and jerking fiercely from side to side. There is no way of describing how big an elephant looks under these conditions, or the speed at which he comes. At about thirty yards I shot, but he took it. He stopped, seemingly puzzled but unhurt. I shot the second barrel and looked for my other gun which was thirty feet behind me. The boy ran up with it and I emptied both barrels into the elephant's head, and still he took it like a sand hill. In the meanwhile, Mrs. Akeley had been firing, too. And then he turned and went off again. I went back to Mrs. Akeley. Everything that I knew about elephant shooting had failed to apply in this case. I had stopped him with one shot. That was normal enough. But then I had put three carefully aimed shots into his head at short range, any one of which should have killed him. And he had taken them with only a slight flinch and then had gone off. I felt completely helpless. Turning to Mrs. Akeley, I said:

"This elephant is pretty well shot up, and perhaps we had better wait for developments."

She said: "No, we started it; so let's finish it."

I agreed as we reloaded, and we were about to start following when his screaming, grunting, roaring attack began again. Exactly the same thing happened as the first time except that this time Mrs. Akeley, the boy, and I were all together. We fired as we had before. He stopped with the first shot and took all the others standing, finally turning and retreating again. Apparently our shots had no effect except to make him stop and think. I was sick of it, for maybe next time he wouldn't stop and evidently we couldn't knock him down. We had about finished reloading when we heard him once more. There was nothing to do but stand the charge, for to run was fatal. So we waited. There was an appreciable time when I could hear his onrush but couldn't see him. Then I caught sight of him. He wasn't coming straight for us, but was charging at a point thirty yards to one side of us and thrashing back and forth a great branch of tree in his trunk. Why his charge was so misdirected I didn't know, but I was profoundly grateful. As he ran I had a good brain shot from the side. I fired, and he fell stone dead. With the greatest sense of relief in the world I went over to him. As I stood by the carcass I felt very small indeed. Mrs. Akeley sat down and drew a long breath before she spoke.

"I want to go home," she said at last, "and keep house for the rest of my life."

Then I heard a commotion in the bush in front of the dead elephant and as I looked up a black boy carrying a cringing monkey appeared. Only the

boy wasn't black. He was scared to an ashen colour and he was still trembling, and the monkey was as frightened as the boy. It was J. T. Jr., Mrs. Akeley's pet monkey, and Alli, the monkey's nurse. They had followed to see the sport without our knowledge, and they had drawn the elephant's last charge.

This experience with an animal that continued to make charge after charge was new to me. It has never happened again and I hope never will, but it shows that with elephants it isn't safe to depend on any fixed rule, for elephants vary as much as people do. This one was the heaviest-skulled elephant I ever saw, and the shots that I had fired would have killed any ordinary animal. But in his case all but the last shot had been stopped by bone.

I couldn't measure his height, but I measured his ear as one indication of his size. It was the biggest I ever heard of. And his tusks were good sized—80 pounds. He was a very big animal, but his foot measurement was not so large as the big bull of the Budongo Forest. Later I made a dining table of his ear, supporting it on three tusks for legs. With the wooden border it was eight feet long and seated eight people very comfortably.

Most wild animals, if they smell man and have an opportunity to get away, make the most of it. Even a mother with young will usually try to escape trouble rather than bring it on, although, of course, they are quickest to fight. But elephants are not always in this category. In the open it has been my experience that they would rather leave than provoke a fight; if

you hunt elephants in the forest, you are quite likely to find that two can play the hunting game, and find yourself pretty actively hunted by the elephants. If the elephants after you are making a noise, it gives you a good chance. When they silently wait for you, the game is much more dangerous.

The old bull, who is in the centre of the elephant group in the Museum of Natural History now, tried to get me by this silent method. I was out on a trail and I saw that a big bunch of animals were near. I wasn't following any particular trail for they had moved about so that signs were everywhere and much confused. Finally I came to a gully. It wasn't very broad or very deep, but the trail I was on turned up it to where a crossing could be made on the level. The forest here was high and very thick, and consequently it was quite dark. As I looked up the trail I saw a group of big shapes through the branches. I thought they were elephants and peered carefully at them, but they turned out to be boulders. A minute later I saw across the gully another similar group of boulders, but as I peered at them I saw through a little opening in the leaves, plain and unmistakable, an elephant's tusk. I watched it carefully. It moved a little, and behind it I caught a glimpse of the other tusk. They were big, and I decided that he would do for my group. I couldn't get a glimpse of his eye or anything to sight by, so I carefully calculated where his brain ought to be from the place where his tusk entered his head, and fired. Then there was the riot of an elephant herd suddenly starting. A few

seconds later there was a crash. "He's down," I thought, and Bill, the gun boy, and I ran over to the place where the animals had been. We followed their tracks a little way and found where one of the elephants had been down, but he had recovered and gone on. However, he had evidently gone off by himself when he got up, for while the others had gone down an old trail he had gone straight through the jungle, breaking a new way as he went. With Bill in the lead, we pushed along behind him. It was a curious trail, for it went straight ahead without deviation as if it had been laid by compass. One hour went by and then another. We had settled down for a long *trek*. The going wasn't very good and the forest was so thick that we could not see in any direction. We were pushing along in this fashion when, with a crash and a squeal, an elephant burst across our path within fifteen feet of us. It was absolutely without warning, and had the charge been straight on us we could hardly have escaped. As it was, I fired two hurried shots as he disappeared in the growth on the opposite side of the trail. The old devil had grown tired of being hunted and had doubled back on his own trail to wait for us. He had been absolutely silent. We hadn't heard a thing, and his plan failed, I think, only because the growth was so thick that he charged us on scent or sound without being able to see us. I heard him go through the forest a way and then stop. I followed until I found a place a little more open than the rest, and with this between me and the trees he was in I waited.

I could hear him grumbling in there from time to time. I didn't expect him to last much longer so I got my lunch and ate it while I listened and watched. I had just finished and had a puff or two on my pipe when he let out another squeal and charged. He evidently had moved around until he had wind of me. I didn't see him but I heard him, and grabbing the gun I stood ready. But he didn't come. Instead I heard the breaking of the bushes as he collapsed. His last effort had been too much for him.

The efforts of the next elephant who tried the quiet waiting game on me were almost too much for me.

We had just come down from the ice fields seventeen thousand feet up on the summit of Mt. Kenia, overlord of the game regions of British East Africa, and had come out of the forest directly south of the pinnacle and within two or three miles of an old camping ground in the temperate climate, five or six thousand feet above sea level, where we had camped five years before and again one year before. Instead of going on around toward the west to the base camp we decided to stop here and have the base camp brought up to us. Mrs. Akeley was tired, so she said she would stay at the camp and rest; and I decided to take advantage of the time it would take to bring up the base camp to go back into the bamboo and get some forest photographs.

There was perfectly good elephant country around our camp but I wanted to go back up where the forests stop and the bamboo flourishes, because it was a bamboo setting that I had selected for the group

of elephants I was then working on for the African Hall in the American Museum of Natural History. I started out with four days' rations, gun boys, porters, camera men, and so forth—fifteen men in all. The second day out brought me to about nine thousand feet above sea level where the bamboo began. Following a well-worn elephant trail in search of this photographic material, I ran on to a trail of three old bulls. The tracks were old—probably as much as four days—but the size was so unusual that I decided to postpone the photography and follow them. I did not expect to have to catch up their four days' travel, for I hoped that they would be feeding in the neighbourhood and that the trail I was on would cross a fresher trail made in their wanderings around for food. I had run upon their tracks first about noon. I followed until dark without finding any fresher signs. The next morning we started out at daybreak and finally entered an opening such as elephants use as a feeding ground. It is their custom to mill around in these openings, eating the vegetation and trampling it down until it offers little more, and then move on. In six months or so it will be grown up again eight or ten feet high and they are very apt to revisit it and go through the same process again. Soon after we entered this opening I came suddenly upon fresh tracks of the elephants I had been following. Not only were the tracks fresh but the droppings were still steaming and I knew that the animals were not far away; certainly they had been there not more than an hour before. I followed

the trail amongst the low bush in the opening but it merely wandered about repeatedly bringing me back to the place where I had first seen the fresh tracks, and I realized that I might do this indefinitely without getting closer to the elephants. I decided to go outside the opening and circle around it to see if I could find the trail of my bulls as they entered the forest. This opening was at the point on the mountain where the forest proper and the bamboos merged. I followed an elephant path out of the opening on the bamboo side and had gone but a little way when I discovered fresh signs of my three bulls, who had evidently left the opening by the same path that I was following, and at about the same time I heard the crackling of bamboo ahead, probably about two hundred yards away. This was the signal for preparation for the final stalk.

I stood for a moment watching one of the trackers going up the trail to a point where it turned at right angles in the direction of the sounds I had heard. There he stopped at rest, having indicated to me by signs that they had gone in that direction. I turned my back to the trail, watching the porters select a place to lay down their loads amidst a clump of large trees that would afford some protection in case of a stampede in their direction. The gun boys came forward presenting the guns for inspection. I took the gun from the second boy, sending him back with the porters. After examining this gun I gave it to the first boy and took his. When I had examined this I leaned it against my body while I chafed my hands

which were numb from the cold mists of the morning, knowing that I might soon need a supple trigger finger. During this time the first gun boy was taking the cartridges, one by one, from his bandoleer and holding them up for my inspection—the ordinary precaution to insure that all the ammunition was the right kind, and an important insurance, because only a full steel-jacketed bullet will penetrate an elephant's head. While still warming my hands, inspecting the cartridges, and standing with the gun leaning against my stomach, I was suddenly conscious that an elephant was almost on top of me. I have no knowledge of how the warning came. I have no mental record of hearing him, seeing him, or of any warning from the gun boy who faced me and who must have seen the elephant as he came down on me from behind. There must have been some definite signal, but it was not recorded in my mind. I only know that as I picked up my gun and wheeled about I tried to shove the safety catch forward. It refused to budge, and I remember the thought that perhaps I had left the catch forward when I inspected the gun and that if not I must pull the triggers hard enough to fire the gun anyway. This is an impossibility, but I remember distinctly the determination to do it, for the all-powerful impulse in my mind was that I must shoot instantly. Then something happened that dazed me. I don't know whether I shot or not. My next mental record is of a tusk right at my chest. I grabbed it with my left hand, the other one with my right hand, and swinging in between them went to the ground,

on my back. This swinging in between the tusks was purely automatic. It was the result of many a time on the trails imagining myself caught by an elephant's rush and planning what I would do, and a very profitable planning, too; for I am convinced that if a man imagines such a crisis and plans what he would do, he will, when the occasion occurs, automatically do what he planned. Anyway, I firmly believe that my imaginings along the trail saved my life.

He drove his tusks into the ground on either side of me, his curled-up trunk against my chest. I had a realization that I was being crushed, and as I looked into one wicked little eye above me I knew I could expect no mercy from it. This thought was perfectly clear and definite in my mind. I heard a wheezy grunt as he plunged down and then—oblivion.

The thing that dazed me was a blow from the elephant's trunk as he swung it down to curl it back out of harm's way. It broke my nose and tore my cheek open to the teeth. Had it been an intentional blow it would have killed me instantly. The part of the trunk that scraped off most of my face was the heavy bristles on the knuckle-like corrugations of the skin of the under side.

When he surged down on me, his big tusks evidently struck something in the ground that stopped them. Of course my body offered practically no resistance to his weight, and I should have been crushed as thin as a wafer if his tusks hadn't met that resistance—stone, root, or something—underground. He seems to have thought me dead for he left me—by some good

fortune not stepping on me—and charged off after the boys. I never got much information out of the boys as to what did happen, for they were not proud of their part in the adventure. However, there were plenty of signs that the elephant had run out into the open space again and charged all over it; so it is reasonable to assume that they had scattered through it like a covey of quail and that he had trampled it down trying to find the men whose tracks and wind filled the neighbourhood.

Usually, when an elephant kills a man, it will return to its victim and gore him again, or trample him, or pull his legs or arms off with its trunk. I knew of one case where a man's porters brought in his arm which the elephant that had killed him had pulled off his body and left lying on the ground. In my case, happily, the elephant for some reason did not come back. I lay unconscious for four or five hours. In the meanwhile, when they found the coast was clear, the porters and gun boys returned and made camp, intending, no doubt, to keep guard over my body until Mrs. Akeley, to whom they had sent word, could reach me. They did not, however, touch me, for they believed that I was dead, and neither the Swahili Mohammedans nor the Kikuyus will touch a dead man. So they built a fire and huddled around it and I lay unconscious in the cold mountain rain at a little distance, with my body crushed and my face torn open. About five o'clock I came to in a dazed way and was vaguely conscious of seeing a fire. I shouted, and a little later I felt

myself being carried by the shoulders and legs. Later again I had a lucid spell and realized that I was lying in one of the porter's tents, and I got clarity of mind enough to ask where my wife was. The boys answered that she was back in camp. That brought the events back to me, how I had left her at camp, found the trail of the three old bulls, followed them and, finally, how I was knocked out. I was entirely helpless. I could move neither my arms nor legs and I reached the conclusion that my back was broken. I could not move, but I felt no pain whatever. However, my coldness and numbness brought to my mind a bottle of cocktails, and I ordered one of the boys to bring it to me. My powers of resistance must have been very low, for he poured all there was in the bottle down my throat. In the intervals of consciousness, also, I got them to give me hot bovril—a British beef tea—and quinine. The result of all this was that the cold and numbness left me. I moved my arms. The movement brought pain, but I evidently wasn't entirely paralyzed. I moved my toes, then my feet, then my legs. "Why," I thought in some surprise, "my back isn't broken at all!" So before I dropped off again for the night I knew that I had some chance of recovery. The first time I regained consciousness in the morning, I felt that Mrs. Akeley was around. I asked the boys if she had come. They said no, and I told them to fire my gun every fifteen minutes. Then I dropped off into unconsciousness again and awoke to see her sitting by me on the ground.

When the elephant got me, the boys had sent two

runners to tell Mrs. Akeley. They arrived about six in the evening. It was our custom when separated to send notes to each other, or at least messages. When these boys came on to say that an elephant had got me, and when she found that there was no word from me, it looked bad. Mrs. Akeley sent word to the nearest government post for a doctor and started her preparations to come to me that night. She had to go after her guides, even into the huts of a native village, for they did not want to start at night. Finally, about midnight, she got under way. She pushed along with all speed until about daybreak, when the guides confessed that they were lost. At this juncture she was sitting on a log, trying to think what to do next. And then she heard my gun. She answered, but it was more than an hour before the sounds of her smaller rifle reached our camp. And about an hour after the boys heard her gun she arrived.

She asked me how I was, and I said that I was all right. I noticed a peculiar expression on her face. If I had had a looking glass, I should probably have understood it better. One eye was closed and the forehead over it skinned. My nose was broken and my cheek cut so that it hung down, exposing my teeth. I was dirty all over, and from time to time spit blood from the hemorrhages inside. Altogether, I was an unlovely subject and looked hardly worth saving. But I did get entirely over it all, although it took me three months in bed. The thing that was serious was that the elephant had crushed several of my ribs

into my lungs, and these internal injuries took a long time to heal. As a matter of fact, I don't suppose I would have pulled through even with Mrs. Akeley's care if it hadn't been for a Scotch medical missionary who nearly ran himself to death coming to my rescue. He had been in the country only a little while and perhaps this explains his coming so fast when news reached him of a man who had been mauled by an elephant. The chief medical officer at Fort Hall, knowing better what elephant mauling usually meant, came, but he didn't hurry. I saw him later and he apologized, but I felt no grievance. I understood the situation. Usually when an elephant gets a man a doctor can't do anything for him.

But this isn't always so. Some months later I sat down in the hotel at Nairobi with three other men, who like myself had been caught by elephants and had lived to tell the tale. An elephant caught Black in his trunk, and threw him into a bush that broke his fall. The elephant followed him and stepped on him, the bush this time forming a cushion that saved him, and although the elephant returned two or three times to give him a final punch, he was not killed. However, he was badly broken up.

Outram and a companion approached an elephant that was shot and down, when the animal suddenly rose, grabbed Outram in his trunk and threw him. The elephant followed him, but Outram scrambled into the grass while the elephant trampled his pith helmet into the ground, whereupon Outram got right under the elephant's tail and stuck to this position

while the elephant turned circles trying to find him, until, becoming faint from his injuries, Outram dived into the grass at one side. Outram's companion by this time got back into the game and killed the elephant.

Hutchinson's story I have forgotten a little now, but I remember that he said the elephant caught him, brushed the ground with him, and then threw him. The elephant followed him and Hutchinson put off fate a few seconds by somehow getting amongst the elephant's legs. The respite was enough, for the gun boy, by this time, began firing and drove the elephant off.

In all of these cases, unlike mine, the elephants had used their trunks to pick up their victims and to throw them, and they had intended finishing them by trampling on them. This use of the trunk seems more common than the charge with the tusks that had so nearly finished me. Up in Somaliland Dudo Muhammud, my gun boy, showed me the spot where he had seen an elephant kill an Italian prince. The elephant picked the prince up in his trunk and beat him against his tusks, the prince, meanwhile, futilely beating the elephant's head with his fists. Then the elephant threw him upon the ground, walked on him, and then squatted on him, rubbing back and forth until he had rubbed his body into the ground.

But elephants do use their tusks and use them with terrible effect. About the time we were in the Budongo Forest, Mr. and Mrs. Longdon were across Lake Albert in the Belgian Congo. One day Longdon

shot a bull elephant and stood watching the herd disappear, when a cow came down from behind, unheard and unseen, ran her tusk clear through him and, with a toss of her head, threw him into the bush and went on. Longdon lived four days.

But although the elephant is a terrible fighter in his own defence when attacked by man, that is not his chief characteristic. The things that stick in my mind are his sagacity, his versatility, and a certain comradeship which I have never noticed to the same degree in other animals. I like to think of the picture of the two old bulls helping along their comrade wounded by Major Harrison's gun; to think of several instances I have seen of a phenomenon, which I am sure is not accidental, when the young and husky elephants formed the outer ring of a group protecting the older ones from the scented danger. I like to think back to the day I saw the group of baby elephants playing with a great ball of baked dirt two and a half feet in diameter which, in their playing, they rolled for more than half a mile, and the playfulness with which this same group teased the babies of a herd of buffalo until the cow buffaloes chased them off. I think, too, of the extraordinary fact that I have never heard or seen African elephants fighting each other. They have no enemy but man and are at peace amongst themselves.

It is my friend the elephant that I hope to perpetuate in the central group in the Roosevelt African Hall as it is now planned for the American Museum of Natural History—a hall with groups of African ani-

mal skins mounted on sculptured bodies, with backgrounds painted from the country itself. In this, which we hope will be an everlasting monument to the Africa that was, the Africa that is now fast disappearing, I hope to place the elephant group on a pedestal in the centre of the hall—the rightful place for the first animal of them all.

And it may not be many years before such museum exhibits are the only remaining records of my jungle friends. As civilization advances in Africa, the extinction of the elephant is being accomplished slowly but quite as surely as that of the American buffalo two generations ago. It is probably not true that the African elephant cannot be domesticated. In fact, somewhere in the Congo is a farm where fifty tame elephants, just as amenable as those in India, are at work. But taming elephants is not a sound proposition economically. Elephant farming is a prince's game, and Africa has no princes to play it. An elephant requires hundreds of acres of land, infinitely more than cattle and sheep and the other domesticated animals. So it is that as man moves on the land, the elephant must move off.

Moreover, African settlers are making every effort to hasten the process. Wherever the elephants refuse to be confined to their bailiwicks and annoy the natives by raiding their farms, the Government has appointed official elephant killers. The South African elephant in the Addoo bush was condemned to be exterminated several years ago. Here, however, the hunters sent into the bush to kill them off found the

elephant too much for them and finally gave up the attempt. Now they are being shot only as they come out to molest the natives, with the result that they are able to persist in the bush in limited numbers. Uganda also has official elephant killers wherever the elephants make trouble in the natives' gardens. In British East Africa and in Tanganyika a similar situation exists. The game must eventually disappear as the country is settled, and with it will be wiped out the charm of Africa.

We had heard much of Ruindi Plains in the Belgian Congo as the wonderful game country that it no doubt used to be. To me it seems a vast graveyard. There, too, commercialism has played its part in exterminating the animals and, while we found two or three species of antelope and many lions, other large game is very rare. I suppose that the Ruindi Valley was discovered among the last of the great game pockets and that ivory poachers are responsible for the disappearance of much of the other game as well as of the elephant. The forested valley, which I went through for perhaps ten miles, carried every evidence of having been a wonderful game country in the past, but only a pitiful remnant of the splendid animals who once made it their home remains. Along great elephant boulevards, all overgrown, weaving through the forest, one may occasionally track a single elephant or a small band. A small herd of buffalo grazes where a few years ago there were great numbers.

In our journey north from Cape Town by rail we saw not a single head of game until we reached the

Lualaba River, and during the five days that we spent going down that river we saw only a few antelope, perhaps a half dozen elephants and, as I remember it, two or three hippopotami. On the entire journey to within fifty miles of Lake Edward and in all our hunting we found signs of only a few small bands of elephants. Men have spoken of darkest Africa, but the dark chapters of African history are only now being written by the inroads of civilization.

CHAPTER III

MY ACQUAINTANCE WITH LIONS

FOR many thousands of years lions have appeared in literature and art as savage and ferocious animals. For about that length of time man has been attacking lions and when the lions fought back man has set down this judgment against them. At the same time, with the criticism of his savagery, man has put in all his records testimony to the courage, strength, and fighting qualities of what has been called through the ages the King of Beasts.

The lion's savagery is very much the same as man's —that is, he kills other animals for food, and not having developed any specialized industries like the packers, each lion kills for himself. His day's work, instead of getting money to buy food, consists chiefly in getting food, and he goes about it something in this manner. About dusk he comes out from his resting place, yawns, stretches, and looks about for something to eat. In East Africa his favourite diet is zebra, but he likes any of the game animals, and he prefers the larger animals to the smaller antelope because the larger ones are easier to catch. His intention is to get his food the easiest and quickest way. He goes out on the plains and by scent, sight, and

hearing locates a herd of zebra, for example. He then gets down wind from what he hopes will be his next meal and stalks to within rushing distance. He can outrun a zebra for a short distance, and when within striking distance he makes a sudden dash. I think that the zebra is thrown by the lion's spring and then killed by a bite in the back of the neck, but this impression is from deduction and not from observation. I have seen a lot of animals that lions had killed but I never saw a lion in the act of killing. In fact, the methods which lions use in hunting are not known in detail from observation, for not enough instances have ever been witnessed and recorded to make the basis for any general statement which could be considered scientifically accurate.

When he has captured his animal the lion will eat and then lie near it perhaps all night, perhaps all the next day, if he is not disturbed, eating as he desires. If he leaves his kill the jackals, hyenas, and vultures will clean it up immediately, and as the lion kills for food and not for sport or the pleasure of killing, he is content with one kill as long as the meat lasts.

The lion group, as I have designed it for the Roosevelt African Hall, will show in the foreground a trickling stream where the lions have come at dawn to drink, while, at a distance on the plains, the vultures and jackals are approaching the kill the lions have just left.

Lion hunters are not agreed about how much lions depend on sight, on sound, and on smell. It is not

altogether easy to tell how soon they know the presence of man or of other animals, for they do not always show what they know. For instance, I once had the startling experience of getting within three feet of a lioness before she moved. She, of course, knew I was there long before I got that close, and yet until I almost stepped on her she made no sign. There is, however, no question but that the lion has a sharp, far sight in the daytime, and from the size of the pupil and his nocturnal habits of hunting I think he has unusually keen sight at night. I have never seen any indication that a lion has the keen smell of a dog or any animal that hunts by scent, nor have I ever seen anything to make me believe that he has any abnormal sense of hearing.

While many things about lions' habits are controversial, I think that practically everyone who has had experience with them will agree that they are not savage in the sense of killing for the mere sake of killing. There are a few isolated cases which seem to conflict with this statement, but the great mass of testimony confirms it. There was a seeming exception to this rule which happened to an English traveller and his wife in Somaliland. They were intent on getting a lion by "baiting"—that is, they killed an animal and left it as bait for the lions while they hid in a thorn *boma* which they built near by. There was only a small hole in the *boma* through which to watch and shoot. They stationed a black boy at this hole to watch while they slept. They awoke to find that a lion had stuck his head into the hole and killed the

black boy—bitten his head clear off, so the local story goes. However, no one knows why the lion killed the boy in this case for, of the three possible witnesses, two were asleep and the third dead.

It is possible, of course, that the lion deliberately attacked the *boma* without provocation, but it seems unlikely, for lions are driven to these extremities chiefly by hunger; and in this case the lion could have satisfied his hunger by the bait that had been laid out for him. The usual man-eater is an old lion, who in the season of scattered game finds it impossible with his failing strength and speed to catch animals for food. To keep from starving he attacks the native flocks and herds, or the natives themselves. The most famous man-eaters, the lions of Tsavo, which spread such terror as almost to stop construction on a part of the Uganda railway, were, indeed, an exception to the rule. Colonel Patterson, whose classic account of them is one of the great animal stories of the world, accounted for these young, vigorous animals becoming man-eaters because some of the coolie workers who died were put in the bush unburied and the lions had acquired a taste for human flesh by eating these bodies. After this taste was acquired these lions hunted men just as the ordinary lion hunted zebras. They made a regular business of it. It was their daily fare, and they took a terrible toll before they were finally killed. But these lions were killing for food just as if they were killing zebras.

Even when forced to fight, the lion is not vindictive. If an elephant gets a man he is likely to trample on

his victim and mutilate him even after he is dead. I have never known of lions doing this. On the other hand, as soon as their adversary is dead, often as soon as he is quiet, they will let him alone. The game animals on which the lions are accustomed to feed corroborate this characteristic. They know that the lion kills for food at night and they likewise know that he kills only for food, so in the daytime they do not bother about lions particularly. I have seen lions trot through a herd of game within easy striking distance of many of the animals without causing any disturbance.

So far as I know, except for the comparatively few man-eaters, lions are never the aggressors. More than that, they prefer to get out of the way of man rather than fight him, and they will put up with a good deal of disturbance and inconvenience and even pain before they will fight. But once decided to fight they will fight with an amazing courage even if there are plenty of opportunities to escape.

I had an experience which showed both these aspects of a lion's nature. Frederick M. Stephenson, John T. McCutcheon, the cartoonist, Mrs. Akeley, and I were hunting lions. I had a moving-picture camera and the others were armed with guns. One day the natives rounded up a lioness in a patch of uncommonly tall, thick grass. The beaters hesitated to go in after her, so I took a gun and McCutcheon and I joined the porters, leaving Stephenson and Mrs. Akeley outside. The grass was so thick that we had to take our rifles in both hands and push the

grass down in front of us and then walk on it. We had made some progress in this manner when suddenly, as we were pushing down the grass, it was thrown violently back, jerking our rifles up and almost throwing us over. It was the lioness. We had pressed the grass down right on her back. Yet despite this intrusion she made off and did not attack us.

As she went out of the grass into the open, Stephenson shot at her and missed. Some of the boys rode after her on horseback and rounded her up in another patch of cover. By this time, however, her patience had run out. She could have run some more had she wanted to, but she didn't want to. When Stephenson approached the cover with his gun boys she took the initiative and charged. His first shot stopped her a second, but she came on again. His second shot killed her.

My first black-maned lion showed the same characteristics. He, too, preferred peace to war, although I originally disturbed him with his kill, but finally, when he declared war, although he was badly wounded, he preferred to charge two white men and thirty natives rather than try to escape.

I had gone up on the Mau Plateau to shoot *topi*. The plateau is about 8,000 feet above sea level there and I didn't expect to find any lions. One day I discovered two *topi* in a little valley between two gentle rises. I was crawling up to the top of one of the rises overlooking the valley to get a shot when I noticed some movement in the grass on the slope

opposite. I thought it was another *topi*. As I raised myself a little to shoot I noticed that the original pair that I was hunting were gazing with fixed attention toward some movement on the far hillside. I looked again and saw an old lion get up and walk to the top of the hill, turn round facing me, and lie down to watch the valley from his side as I was watching it from mine. We were about 400 yards from each other. In the valley between were the *topi*, and also I noticed a dead zebra. Evidently I had disturbed him at his previous night's kill. My pony and gun boys were some distance behind and I had only one cartridge left in my double-barrelled cordite rifle. Under these conditions I reluctantly decided to go back for proper equipment. My reluctance was not merely at losing a lion but at losing that particular lion, for he had a great black mane and no one had killed a black-maned lion in that part of Africa.

By the time I got back with my cartridges and the gun boys, he had disappeared. We began beating about to see if we could find him or his trail, but without success. We did, however, find the remains of several kills, which led me to think that this single old fellow had found the neighbourhood good hunting, and was making a more or less prolonged stay. Under the circumstances I felt it wise to go to camp and get my companion, Shaw Kennedy, and our thirty beaters to hunt him out the next day.

Before going, however, I planned a campaign. Not far from where the lion had been a ravine began,

which ran some distance and ended in a thick piece of forest. The sides of the ravine were covered with clumps of thick bush. Into one of these I felt sure the lion had retreated. Unless closely pushed he would not go into the forest. My plan was to enter the ravine the next day at the forest end so that he could not escape to safety among the trees, and drive up the ravine to force him out into the open.

When we got to the edge of the forest the next morning Kennedy and I drew lots for the choice of position. He won and chose the upper end of the ravine toward which we were to drive, while I was to follow up behind the beaters to get him if he broke back. Of course we were not sure that our quarry was even in the neighbourhood, but I had great hope of everything except getting this first black-maned specimen myself, for Kennedy's position made it almost certain that he would get the animal if any one did. The first patch of bush that the beaters tackled was about 100 yards long and 50 yards wide. As they set up their usual racket before entering I thought I heard a lion's grunt, but as nothing more developed I concluded it had been merely some of the boys. This patch of bush was a mass of nettles, briers, and thorns, and made exceedingly disagreeable going. The porters were making very slow progress, so I went in to encourage them. However, by the time we were halfway through I was so scratched and torn that I quit and went out toward the bottom of the ravine. The briers had somewhat cooled my faith in the theory that the lion was in the ravine. I

sat down on an ant-hill where I had a fair view. Kennedy fired and I looked quickly. The lion which had come out in front of Kennedy had turned and was running down across the ravine and up the other side. I had a good shot at him and the bullet knocked him over. However, he got up and went into a clump of bush. This clump just filled a kind of pot hole about fifty yards in diameter. Kennedy watched one side and I the other so that we had every avenue of escape covered. The beaters then began throwing stones and sticks into the bush. The lion made no move. He might be dead or he might be lying close. We wanted to know, but no one wanted to know sufficiently to crawl in and see. Finally Dudo, my gun-bearer, suggested that we light a fire and make some firebrands. We busied ourselves with this. In the meanwhile, there was no response from the lion. When the firebrands were ready Dudo asked leave to throw the first one for he maintained that he knew where the lion was. Dudo threw, and as his firebrand disappeared in the brush there was a roar and a shaking of the bushes that told exactly where the beast was hidden. A shower of firebrands followed but with no effect. Then the boys threw rocks. But nothing resulted. By this time Kennedy had joined the crowd. All the beaters and both of us were grouped on one side of the pot hole. Dudo now took a small-bore rifle and fired, not in an effort to kill the lion but to move him. It succeeded, and he moved, not away from us but toward us. The way of retreat was open but he didn't take it. Dudo

fired again, and again the bushes moved toward us. Finally the old fellow was so close to the edge of the brush that while we couldn't see him he undoubtedly could see us. He stood looking out on thirty black men and two white men in front of a great fire—a crowd of his enemies. The path was not blocked in any other direction. He looked us over carefully for fully five minutes and then of his own volition, with a great roar, he charged out of the brush and up from the pot hole. Halfway up the slope the fatal bullet hit him. He was killed charging his enemies and without thought of retreat—the first black-maned lion ever shot in British East Africa.

He was old and had been through various vicissitudes. At one time he had had a leg broken but it had healed perfectly. The tip of his tail was gone also. But for all that he was a great specimen.

These two instances are fair examples of the usual method of hunting lions in British East Africa. Riding after them on horseback might be considered a different method than the beating, but as a matter of fact, the two merge into each other. When beating, the lion hunter usually rides until he actually reaches the lion's cover, and if he runs on to a lion in the open he rides after it until the superior speed of the horse over any fair distance forces the lion to stop and lie down at bay. And, likewise, if one is riding after lions and the lion gets into cover, the game is up unless there are beaters to get him out.

Paul Rainey introduced an added element to the horseback method of lion hunting when he imported

his lion hounds. I call them lion hounds for they chased lions—that is the only thing the pack had in common. It included curs, collies, airedales, bear hounds from the South, and almost every other kind of canine. When Rainey and the hounds appeared, the Governor of East Africa remarked that the lions were going to get some good dog meat. But within a couple of years "hounding lions" was stopped because the lions fell too easy a prey to the hounds and hunters. When Rainey took his hounds there no one was certain how the lions would act, and it was a sporting thing to try. But it soon developed—and Rainey, who is a thorough sportsman, was one of the first to see it—that the hounds kept the lion so busy once he was brought to bay that the hunter could approach and take as many shots as necessary with almost perfect immunity from a charge. It is not quite accurate to say that Rainey introduced the practice of hunting lions with dogs. Foa, the French traveller, speaks of the practice ten years before Rainey went to Africa. He even tried to organize a pack. His pack failed. But the principle of having dogs keep the lions so busy that they would not charge, he described completely.

Besides these daylight methods of hunting it was a common practice to hunt lions at night by baiting—that is, to kill an animal and hide near it in the hope that a lion would come to eat, and then shoot him. There is not much danger in this, for the thorn *bomas*, or hiding places, are a good protection, and the lion would not be likely to attack any one unless he was

shot at or molested. There is, of course, the instance of the black man killed in the *boma* in Somaliland, but that event is the exception.

As a method of killing lions, night baiting is not very sportsmanlike, but as a method of photographing it is not only legitimate but it has produced by far the best lion pictures ever made in Africa—especially those of Schilling and A. Radclyffe Dugmore. Rainey and Buffalo Jones got some remarkable moving pictures of hunting lions with dogs, but the total number of all pictures of live lions ever taken is still in keeping with the small amount of detailed and accurate knowledge of lions' habits which we have. To my mind the finest lion-hunting picture ever taken was brought back by Lady Grace McKenzie. Her operator got a moving picture of a wounded lion charging. It shows the lion's rush from the bush at Lady McKenzie and her companion—a white man. It shows the man turn and run and the lion rush right by Lady McKenzie after him. There the picture ends. On his recent trip Martin Johnson got a motion picture of five lions crossing the plains, one of which was shot by Mr. Johnson.

But neither beating, baiting, nor hounding is the really sportsmanlike method of hunting lions—it is spearing, and spearing takes a black man.

One time in Uganda, after I had been under a considerable strain while elephant hunting, I decided that I needed a rest and a change. I set out for the Uasin Gishu Plateau where I got together one hundred Nandi spearmen. We had no difficulty in getting

volunteers, for they were to be paid and fed for playing the game they loved. During the first half day out from the government station, where we gathered our force together, the alarm of lion was sounded. We were approaching a patch of bush. The spearmen entered the bush from all sides. I placed my motion-picture camera at a point of vantage. The idea was to drive the lion out in front of the camera and have the spearmen at that point spear him. Above the din of the spearmen in the bush I finally heard the angry growl of a leopard. There was great excitement in the bush for a few seconds. Then three of the boys came out of the bush. The middle boy of the three was being carried and his scalp was hanging down over his face. Behind this trio came a group carrying the dead leopard. Later, when his skin was stretched, it showed sixty spear holes.

I promptly took the wounded boy under the shade of a mimosa tree, shaved him, and sewed his scalp back into place and cared for his other wounds. He showed little interest in the proceedings beyond asking a question of the other black boys about what I was doing. Seemingly the whole operation was over before he recovered from the shock of his mauling. The next morning when I sent him home he was much troubled. He said that he had not committed any offence and he did not see why he had to be sent home. His wounds did not seem to trouble him or to dampen the ardour of the others in the slightest.

We went on for a week. One day, just as we were making camp near a waterfall, an alarm was sounded

near the forest. One of the boys had seen a lion. His whereabouts was discovered after much beating back and forth. I got my camera ready as before at the place the boys thought the fight would take place, but the lion did not do his part. He broke in a different direction and another bunch of spearmen got him two hundred yards away. It was so exasperating to have something prevent this most exciting of all movie photography from succeeding that I almost failed to appreciate the courage and skill of the spearmen.

A few days later, soon after our start in the morning, Mrs. Akeley and I were riding ahead of the procession when we met several lions coming out of the grass and bush near a small stream. The spearmen immediately surrounded the bush into which the lions plunged. The lions tried to escape, but in whatever direction any lion tried to go a spearman bobbed up out of the grass in front of him. That is a simple statement, but to jump up in front of a lion or three lions with nothing but a spear and shield as protection is a thing not to be taken lightly. As the lions sought one escape after another, and found each closed, they fought it out. There was about ten minutes of pandemonium. Then we took stock. Three dead lions gathered together in a pile; pretty authentic reports that two others escaped—and not a picture.

At the next spearing, however, I did get two pictures. We were riding along early in the morning through a rough bush country. All at once I heard a lion grunt. The gun boy held up his hand as a signal to stop. The camera was rushed forward to the bank

of a little ravine, but before it was assembled ready for the operation a lioness came up within ten feet of the camera, turned to the left, and then ran back by the same route. The boys waved to me to come down twenty-five yards. There, from a little knoll, we got the first movie record of lion spearing. A young, full-grown lion was at bay in tall grass at the bottom of the ravine. The camera trained on the place caught the first spear thrown. The first one was followed by a shower of spears, and a few seconds later the boys rushed in and got their spears. It was all over quicker than it takes to tell it. In the film not only do the falling spears show but also the movement of the lion in the grass, but the cover and a dark day made any part of the film impossible to use as a still picture. Hardly had I finished turning the handle on this scene when I was called off twenty-five yards to another lion at bay. He was held for the camera and a similar record of this one was made. In the meantime, a lone spearman making desperate effort to get into the show stumbled on an old lioness. They fought it out, man and beast together. When we discovered him he was on his back protecting himself with his shield, a single bite in his leg and the lioness dying beside him. He had killed a lioness practically alone, which entitled him to wear a lion's skin headdress.

On this trip of twenty days we had three occasions in which the spearmen rounded up five lions in a bunch and each time they got three of the five. Altogether, we got ten lions and five leopards. One boy was mauled by a leopard, another was bitten

on the leg by the lion. These were the only injuries to the men. Not a shot was fired during the twenty days. Our last encounter involved five old lions, three of which were speared, and three cubs captured alive—but no pictures. It happened like this:

Three lions going up a slope, signal given, pandemonium turned loose. Movements of men looked as if the lions had gone over the hill beyond to a dry stream bed. With the heavy camera I ran down the foot of the hill when I was called back and had to run back to the top of the hill where the lion was at bay. He might have been held indefinitely there in the open sunlight—a wonderful chance for a picture. But in spite of long teaching, of threats, promises, and urging, the boys' excitement overcame them. The spears began to fly before the camera was ready. As I was adjusting the camera the lion was speared in full view in the open sunlight. A camera man never had such a chance before, but it was lost because the camera was slow. After the planning, the care, the work—the luck to have it go like this was too much, and my instinct was to grab my gun and shoot the man who threw the first spear. I think it was the most heartbreaking failure I ever had. I intended never to have another, and from that minute I began working on a camera that takes no time to adjust. I got it finally, but that one moment of poignant disappointment cost me many months of toil.

Here is the way I see this lion spearing. A naked savage gets iron ore, then he gets fire from two sticks, and then charcoal. Then he makes a retort of clay

in which he smelts the iron ore. With a hunk of granite for an anvil and another for a hammer he rough forges the spear. With soft iron hammers forged in a similar way he finishes the spear which is finally sharpened on native stones. With this equipment he starts out to kill the lion that has been preying on his flocks or herds. He takes a great pride in the achievement, for he will make from the mane a headdress which his exploit entitles him to wear. Of course this does not happen just this way now, but the Nandi's spearmen speared lions with the arms they made before the white men came. It is a fair contest between man and beast. And the courage and skill of these men are wonderful.

Paul Rainey had a ranch on the west shore of Lake Naivasha. One morning his boys reported to him that a lion had invaded the *kraal* the night before. He set out on horseback with a few of his dogs and two Masai herd boys with their spears. The dogs soon took up the spoor of the lion and brought him to bay under an acacia tree on the grassy plain. The sun had just risen above the hills on the other side of the lake. The long shadows of the table-top acacias lay across the plain, the lion underneath in full sunlight. Rainey jumped off his horse, threw the reins over a bush, and grabbed his rifle from its boot. He then saw the two Masai boys run on toward the lion. As they approached the lion, one threw his spear and missed. They were between him and the lion, and he could not shoot. The boys stood stock still till the lion was in mid-air in his final spring

when the one with the spear stepped to one side and thrust his spear into the lion's neck killing him instantly. He fell at their feet. As the boy withdrew the spear and carefully wiped the blood off on the corner of his breechcloth he remarked to Rainey:

"You see, Master, it is work for a child."

That is how the Masai figured it. But I never have felt so. The first wild lion I ever saw scared me almost to death, and a good many of them have scared me since. The first lions that I saw were in Somaliland.

An oryx hunt had just come to a close. We were about to mount our ponies when one of the black boys pointed. There were three lions walking quietly across a patch of hard, dry sand. They were perhaps a hundred yards away. They looked as big as oxen to me. I had never before seen a lion outside of a cage. We turned our ponies over to the Somali gun boys who galloped after them to round them up. My next view of the lions was when the beaters had gone in to drive them out of a bit of jungle. A roar came from immediately in front of me and I saw a lioness in mid-air as high as my head, springing, thank heaven, diagonally away from me. But she saw me as she sprang and landed facing me. As I fired, a lion jumped over her back, which so disconcerted me that my shot only wounded her. This lion disconcerted her, too, for she followed him. Two more shots at her and she disappeared in another clump of cover with the lions. In our efforts to drive them out of this cover we finally set it on fire. The

two lions rushed out and escaped us. The lioness, more seriously wounded than I thought, never came. I had failed to get a lion, but I felt satisfied none the less, because the lions had likewise failed to get me. That one moment in that day, when I saw the lioness in the air, I'll never forget, for I realized that death was but an instant away.

From that time until now I have seen a great many lions, shot some, and handled nearly fifty specimens, so that I have made a fairly extended study of the measurements and anatomy of the king of beasts. I have tried also to study his living characteristics and habits, but that is much more difficult. After all, perhaps the most impressive thing about a lion is his foreleg. The more you know of elephants the more you regard the elephant's trunk. The more you know of lions, the more you respect the lion's foreleg and the great padded and clawed weapon at the end of it. It is perhaps the best token of the animal's strength. It is probably two or three times as powerful in proportion to weight as the arm of a man. He can kill a man with one blow of his paw. His other weapon, his jaw, is strong enough to break a zebra's neck at one bite. These are a rather rough measure of an animal's strength, but they give some idea of it.

There is a record which says that a lion has dragged an African buffalo fifty yards. A buffalo weighs at least three times as much as a lion. I have never had evidence of this much "pulling power" but I have known of many instances of lions dragging zebras

that far, and the zebras weigh nearly twice as much as the lions do.

Another test of a lion's strength is his ability to stand punishment. I have seen a lion charge with seven lead bullets from an old .577 Express rifle through his shoulder, and only finally succumb to the eighth bullet in his head.

L. J. Tarlton, one of the best shots that has ever hunted game in Africa, told me once, when we were both recuperating from sickness, that he was going to quit shooting lions. What had brought him to this conclusion was an experience which he had just had with a charging lioness. He had hit her three times in the chest. She finally died touching his feet. When he examined her, all three bullets were within a three-inch radius and every one should have been fatal. Yet she had almost reached him despite his fast and accurate shooting.

These instances are exceptions, but often in African hunting the exceptions are about as common as the rule and one exception may be enough to end the story.

My nearest approach to being mauled by a lion came from this same capacity of a lion to carry lead, and from my own carelessness. I had seen a lion standing some little distance away from me clearly in view, and had shot him. The bullet knocked him down and, as I thought, hurt him badly. After a while he got up and came my way. When about forty yards away he gave me another clear shot. So without reloading the first barrel of my double-

barrelled rifle I fired the second. I hit him again, but not with the desired result. He charged. There I was with an empty gun to meet the charge of a wounded lion, and with no one else, not even a gun boy, near. All the rules of lion hunting say that you must meet a charge without moving. But all the promptings of instinct were to move, and I moved. I slipped to one side behind a clump of high grass as fast as I could, endeavouring meanwhile to reload. A few seconds after I had left the spot where I should have stood the lion's spring landed him directly on it. He had had to come through a little depression, and this and the long grass had obscured his sight so he had not seen me move. Not landing on me as he expected so disconcerted him that, even though he saw me, he dived into the thick bushes right ahead of him instead of coming at me. There he stopped, threatening for a time to repeat his charge. Finally, changing his mind, he headed deeper into the brush and, as it was too thick to follow him, I let him go. In the mix-up my *syce* had become so completely frightened that he had jumped into the river, so he was quite unable to tell whether the lion had got my pony or the pony had run away. After a certain amount of fruitless searching I walked the ten miles back to camp.

The usual movement of a lion is a walk or a kind of fox trot. At speed he will still continue to trot except at maximum effort, when he gallops.

Lions do not usually have any habitation; but occasionally they live in caves. When I say live, I do

not mean that they inhabit them continuously. They roam about, following the movements of the game. If they happen to be working in a country where there is a cave, they will use it while in the neighbourhood. But a given band of lions usually stays in one place only a short time. The phrase "band of lions" is perhaps not very accurate. Lions go in all kinds of combinations of numbers. There is a cave on the MacMillan ranch near Nairobi from which sixteen lions have been seen to come. Personally I have never seen more than eight lions together, but I have seen almost all combinations of numbers, ages, and sexes below that number. Lions are more often in twos, threes, or fours than in other combinations.

But although I know that lions are accustomed to roam after game, one of the most interesting lion encounters I ever had came from acting on exactly the opposite theory.

There is a place where a little stream flows into the Theba River, where, in 1906, I was looking for buffalo and heard the snarling of two lions. We stopped the buffalo hunt momentarily to locate the lions. We started at the river bank to drive up the small stream toward the higher land and the open. The beaters began their work with their usual noises, which I checked as soon as possible for fear that the lions would go out too far ahead of us to get a shot. I instructed the beaters to go up the little stream with the cover along its banks throwing stones in ahead of them. But my precautions were too late. They had hardly started to work when I noticed on the hills

a lion and a lioness—one going to the left and the other to the right. They were in the open. The lion disappeared over the crest of the first hill. I had a theory that he would lie down on the top of that crest and watch us. I accordingly left part of the men in sight while I, with a few others, approached the hill under cover. I finally succeeded in getting to a point behind a pile of rocks. Motioning the men to stay quiet and keep back, I carefully poked my head up and saw the old fellow as he lay looking toward me about seventy-five yards away. I drew back, and then to my disgust one of my companions rose up in full view of the lion, who made off unscathed by the hurried shots I fired at him. This lion stayed constantly in my mind.

Three years later I was camped on the Tana River with Mrs. Akeley, John McCutcheon, and Fred Stephenson. When we decided to march from the Tana to the Theba I told the crowd that I was going by the spot where I had lost the big lion three years before. I had a "hunch" that he would still be there —or perhaps be revisiting the spot as I was. Anyway, the feeling was strong enough to make me go. Stephenson went off on an independent hunt. The others with the *safari* came with me. We loitered along photographing rhinoceroses until we came in sight of my spot—the place where the little stream emptied into the Theba. I noticed that Stephenson was coming toward us and about to cross the little stream. I remarked, "Fred is going to drive our lions out and never know it." I then felt a little

foolish but nevertheless watched him go through my pet lion bed. Only a few minutes later McCutcheon pointed toward the upper end of the stream and said:

"What is that?"

"My pair of lions," I answered.

They were going up the hill exactly as they had three years before except this time they did not separate. We watched them to the top of the hill. We started out to head them off. As we reached the top of the hill to one side of where they had gone, we heard a lion grunt behind us. There, about a hundred and twenty-five yards away, were the lion and lioness apparently in a very nasty humour. We all crouched down, and as we did so the lions rose up to see us. I said to Mrs. Akeley:

"Shoot whenever you are ready."

I was pretty nervous, for a couple of mad lions in the grass make a very bad outlook.

She fired and missed clean. The lioness began lashing her flanks. Mrs. Akeley fired again. The lion fell dead with a bullet through his brain.

McCutcheon and I urged each other to shoot the lioness, who, in the meantime, bolted and got away. I have handled nearly fifty lions, but this one that Mrs. Akeley killed was the largest of all and he had a good yellow mane. I can't prove that it was the same pair I had seen three years before. What we know of lions is against it, but I still like to think it was. This was Mrs. Akeley's first lion—a splendid trophy, cleanly killed.

CHAPTER IV

HUNTING THE AFRICAN BUFFALO

THE buffalo is different from any other kind of animal in Africa. A lion prefers not to fight a man. He almost never attacks unprovoked, and even when he does attack he is not vindictive. The elephant, like the lion, prefers to be left alone. But he is quicker to attack than the lion and he isn't satisfied merely to knock out his man enemy. Complete destruction is his aim. The buffalo is even quicker than the elephant to take offence at man and he is as keen-sighted, clever, and vindictive as the elephant. As a matter of fact, the domesticated bull is more likely to attack man without provocation than any wild animal I know, and those who wandered on foot around the bulls on our Western prairies in the old cattle days probably experienced the same kind of charges one gets from African buffaloes.

Nevertheless, despite all these qualities, which are almost universally attributed to the African buffalo, I am confident that the buffalo, like the elephant and other wild animals, has no instinctive enmity to man. That enmity, I am sure, is acquired by experience. I had an experience on the Aberdare Plateau with a band of elephants that had seen little or nothing of man, and until they learned about men from me they

paid no more attention to me than if I had been an antelope. But after I had shot one or two as specimens, they acquired the traditional elephant attitude. I had a curiously similar experience with buffaloes.

It happened in this way. Mrs. Akeley, Cuninghame, the famous hunter, and I had been trying for some time, but with little luck, to get buffalo specimens for a group for the Field Museum at Chicago.

We had reason to believe that there was a herd of buffaloes living in the triangle made by the junction of the Theba and Tana rivers. As the buffaloes would have to water from one stream or the other, we felt pretty sure of locating them by following down the Theba to the junction and then up the Tana.

From the swamp down the Theba to its junction with the Tana occupied three days in which we saw no fresh signs of buffalo. On the second march up the Tana, as I was travelling ahead of the *safari* at about midday, looking out through an opening in a strip of thorn bush that bordered the river, I saw in the distance a great black mass on the open plain which, on further investigation with the field glasses, I was reasonably certain was a herd of buffaloes. Sending a note back to Cuninghame, who was in charge of the *safari*, suggesting that he make camp at a hill on the banks of the Tana about two miles ahead of my position and await me there, I started off over the plain with my two gun boys. Coming up out of a dry stream-bed that I had used to conceal

my approach, I came on to a large herd of eland, and my first fear was that I had mistaken eland for buffaloes.

Going farther on, however, we saw a herd of about five hundred buffaloes lying up in a few scattered thorn trees four or five hundred yards away. At first it seemed an almost impossible situation. There was practically no cover and no means of escape in case the herd detected us and saw fit to charge, and at that time my respect for the buffaloes led me to be extremely cautious. We worked around the herd trying to find some place where a safe approach might be made. Finally, seeing a little band of a dozen buffaloes off at one side on the bank of a ravine which offered splendid protection, we stalked them but, unfortunately, not one in the band was desirable as a specimen. Since this was so, I tried them out, giving them my wind, then going up where they could see me better. I found that they were quite indifferent either to the scent or the sight of man. They finally moved off quietly without alarm. I then knew that this herd, like the Aberdare elephants, had had little or no experience with men, and that there was perhaps less to fear from them than from the traditional buffalo of the sportsman. So going back to the main herd, I crept up boldly to within a hundred yards of them. They saw me, faced about, closely inspecting me, but with no sign of alarm. It was approaching dusk, and in this great black mass it was difficult to pick out a good pair of horns except with the aid of glasses. I carefully located a fine bull and then shot,

as I supposed, at the one I had located. As I fired, the animals bolted, first away, then back toward me. They wheeled, ran halfway between the dead animal and me, and passing on about a hundred yards to the right wheeled about again and stood watching me, the bulls in the front, lined up like soldiers, the calves and cows in the background. On coming up to the dead animal, I found, much to my regret, that I had shot a cow and not the bull I had picked out through the glasses.

I returned to camp feeling that now at last, from this herd living apparently in the open, we should have relatively little difficulty in completing our series of specimens. On the following morning, much to our disappointment, our first glimpse of the herd was just as it disappeared in the thorn bush along the bank of the river. We put in nearly a week of hard work to complete the series.

During those seven days of continual hunting, that herd which had been indifferent and unsuspecting at the beginning, like the elephants, became cautious, vigilant, and aggressive. For instance, on one occasion near the close of the week, after having spent the day trying to locate the herd, I suddenly came face to face with them just at the edge of the bush at night on my way back to camp. They were tearing along at a good pace, apparently having been alarmed. I stepped to one side and crouched in the low grass while they passed me in a cloud of dust at twenty-five or thirty yards. Even had I been able to pick out desirable specimens at this time I

should have been afraid to shoot for fear of getting into difficulties when they had located my position. I turned and followed them rapidly as they sped away over the hard ground until the noise of their stampede suddenly stopped. I then decided that it was best to get to some point of vantage and await further developments. I climbed an acacia tree that enabled me to look over the top of the bush. Fifty yards ahead I could see about fifty buffaloes lined up in a little open patch looking back on their trail. As I was perched in the tree endeavouring to pick out a desirable animal, I suddenly discovered a lone old bull buffalo coming from the bush almost directly underneath me, sniffing and snuffing this way and that. Very slowly, very cautiously he passed around the tree, then back to the waiting herd, when they all resumed their stampede and made good their escape for the day.

One morning I came in sight of the herd just as it was entering the thorn bush and followed hurriedly on the trail, until just at the edge of the jungle I happened to catch sight of the two black hoofs of an old cow behind the low-hanging foliage. I stopped, expecting a charge. After a few moments I backed slowly away until I reached a tree where I halted to await developments. Stooping down I could see the buffalo's nose and black, beady eyes as she stood motionless. The rest of the herd had gone on out of hearing and I think she was quite alone in her proposed attack. After a few moments, apparently realizing that her plan had failed, she turned about

and followed the herd, moving very quietly at first, then breaking into a gallop.

On the following day toward evening we came up again with the herd in the same region. As we first saw them they were too far away for us to choose and shoot with certainty. We managed to crawl to a fair-sized tree midway between us and the herd, and from the deep branches picked out the young herd bull of the group. When we had shot and he had disappeared into the bush, a calf accompanied by its mother gave us a fleeting glimpse of itself, with the result that we added the calf to our series.

The herd disappeared into the bush and after a few minutes we descended from our perch and inspected the calf, then started off in the direction the wounded bull had taken, and found him lying dead just a few yards away.

This completed the series, much to our great joy, for by this time we were thoroughly tired of buffalo-hunting. It had been a long, hard hunt, and our *safari* as well as ourselves were considerably the worse for wear. To shoot a half-dozen buffaloes is a very simple matter and ought to be accomplished almost any day in British East Africa or Uganda, but to select a series of a half dozen that will have the greatest possible scientific value by illustrating the development from babyhood to old age is quite a different matter.

These buffaloes of the Tana country that we found on the plains and in the bush apparently rarely or never go into the swamps, a fact not only confirmed

by observation but also indicated by the condition of the hoofs. These are horny, round, and smooth as a result of travelling on the hard and more or less stony ground of the region. But the *tinga-tinga* buffaloes have lived in the swamp for years and spend practically no time on hard ground; hence the hoofs are long, sharp, and unworn as a result of walking always in the soft mud and water. All this despite the fact that these two herds may actually come in contact at the edge of the swamp. Other herds live in forest country but come out into the grasslands to feed at night, always going back into the forest at daybreak.

In Uganda, where buffaloes are recognized as a menace to life and are of no particular value except for food, they are officially treated as vermin and one may shoot as many as he will. Here the herds had increased to an enormous extent and, because of the dense jungles and general inaccessibility of the country, it was rather difficult to hunt them. While elephant-hunting in Uganda we found the buffaloes a decided nuisance, frequently coming on to them unexpectedly while hot on an elephant trail, sometimes having difficulty in getting rid of them, not wishing to shoot or stampede them because of the danger of frightening away the elephants, to say nothing of the constant menace of running into a truculent old bull at very close quarters in dense jungle. The buffaloes actually mingle with the elephants, each quite indifferent to the other excepting that on one occasion we found elephant calves charg-

ing into a herd of buffaloes, evidently only in play. They chased about squealing and stampeding the buffaloes, who kept at a safe distance but did not actually take alarm. Occasionally an old cow whose calf was being hard-pressed by the young elephants would turn, apparently with the intention of having it out, but would always bolt before the elephant could actually reach her. Despite the fact that the record head, fifty-four inches in spread, was shot by Mr. Knowles in Uganda, from our general observation the heads in Uganda run smaller than those of British East Africa while the animals are perhaps heavier.

Although in our buffalo-hunting we have never had any actually serious encounters, I fully appreciate that the buffalo deserves his reputation as one of the most dangerous of big-game animals. His eyesight is good, he has keen scent, and is vigilant and vindictive. While the lion is usually satisfied with giving his victim a knock-out blow or bite, the buffalo, when once on the trail of man, will not only persist in his efforts to find him but, when he has once come up with him, will not leave while there is a vestige of life remaining in the victim. In some cases he will not leave while there is a fragment of the man remaining large enough to form a target for a buffalo's stamping hoofs.

A hunter I met once told me of an experience he had with a buffalo which shows in rather a terrible way these characteristics of the animal. He and a companion wounded a buffalo and followed it into

the long grass. It was lurking where they did not expect it and with a sudden charge it was upon them before they had a chance to shoot. The buffalo knocked down the man who told me the story and then rushed after his companion. The first victim managed to climb a tree although without his gun. By that time the other man was dead. But the buffalo was not satisfied. For two hours he stamped and tossed the remains while the wounded man in the tree sat helplessly watching. When the buffalo left, my informant told me, the only evidence of his friend was the trampled place on the ground where the tragedy had taken place. There is nothing in Africa more vindictive than this.

There was another case of an old elephant hunter in Uganda who shot a buffalo for meat. The bullet did not kill the animal and it retreated into the thick bush where there were even some good-sized trees. The old hunter followed along a path. Suddenly the buffalo caught him and tossed him. As he went into the air he grasped some branches overhanging the trail. There he hung unable to get up and afraid to drop down while the wild bull beneath him charged back and forth with his long horns ripping at the hunter's legs. Happily the gun boy came up in time to save his master by killing the beast. This hunter was an extraordinary character. He was very successful and yet he was almost stone deaf. How he dared hunt elephants or any other big game without the aid of his hearing I have never been able to conceive, yet he did it and did it well.

One morning Cuninghame, having gone out with some boys to shoot meat for camp, came upon three old buffaloes. He sent a runner back to camp with the news, and Mrs. Akeley and I started out to join him. Halfway from camp we were obliged to make a wide detour to avoid an old rhino and calf, but soon caught up with Cuninghame. He reported, however, that the buffaloes had passed on into some dense bush. We started to follow but suddenly came upon two rhinos. We quickly turned to leeward in order not to disturb them by giving them our wind, for we were not anxious to bring on a general stampede of the game in the neighbourhood. This turn brought us to the windward of the old cow and calf that we had first avoided, with the result that she came charging up, followed by the calf close at her heels, snorting like a locomotive. Cuninghame helped Mrs. Akeley up a convenient tree. He stood at the base of the tree and I at the foot of another where we waited with our guns ready, watching the old cow go tearing past within twenty feet of us.

We continued on the buffalo trail, but the stampede of the rhino had resulted in alarming the buffaloes so that instead of finding them near by, we were forced to follow them for an hour or more before again coming in sight of them; and again twice more they were stampeded by rhinos that happened to get in our path. At last the buffaloes evidently became tired of being chased from place to place, and came to rest on a sloping hillside which we could approach only by crawling on our hands and knees in

the grass for a considerable distance. In this manœuvring it happened that Mrs. Akeley was able to stalk the best bull, and a few minutes later he was finished off and we were busy photographing, measuring, and preparing the skin.

About twenty-five miles to the northwest from the Tana, across the plain on the Theba River, is a marsh where a herd of nearly a hundred buffaloes was known to live, but the Provincial Commissioner had definitely said that we were not to shoot these. We decided finally to ask for the privilege, which was granted, but with a warning in the form of an explanation: that he had told us not to shoot there because of the danger involved.

We found a reed marsh about one by two miles in extent with, at that time, a foot or two of water in the buffalo trails that crisscrossed it in all directions. On arriving, and while making camp at one end of the marsh just at dusk, we saw the herd come out on dry land a half mile away—but they returned to cover before we could approach them. In fact, during nearly two weeks that we spent there we saw them come outside the swamp only twice, each time to return immediately.

We made several attempts to approach them in the marsh, but found that while it was quite possible to get up to them it was out of the question to choose our specimens. Also it would have been impossible to beat a retreat in case of a charge or stampede; so we adopted a campaign of watchful waiting. From the camp at daybreak we would scan the marsh for

the snowy cow herons that were always with the buffaloes during the daytime. These would fly about above the reeds from one part of the herd to another, and at times, where the reeds were low, they could be seen riding along perched on the backs of the animals. Having thus located the herd and determined the general direction of its movements, we would go to a point at the edge of the marsh where it seemed likely that the animals would come out, or at least come near enough to be visible in the shorter reeds. It was in this way that we secured the specimen that makes the young bull of the group—and two weeks spent there resulted in securing no other specimen. On this one occasion the buffaloes, accompanied by the white herons, had come to within about a hundred yards of our position on the shores of the swamp. They were in reeds that practically concealed them, but the young buffalo in question, in the act of throwing up his head to dislodge a bird that had irritated him, disclosed a pair of horns that indicated a young bull of the type I wanted. A heron standing on his withers gave me his position, and aiming about two feet below the bird, I succeeded in killing the bull with a heart shot.

CHAPTER V

LEOPARDS AND RHINOS

THERE is a general belief firmly fixed in the popular mind by constant repetition that the ostrich is a very stupid bird. A man might well expect easy hunting of a bird that tried to hide by the traditional method of sticking its head in the sand. But I found that the ostrich, like other African animals, did not always realize its obligation to tradition or abide by the rules set down for its behaviour. I went a long way into the waterless desert of Somaliland after ostriches. We were just across the Haud and were camped in a "tug" or dry stream bed where by digging we could get water for our sixty men and the camels. During two days of hunting in the dry bush of this desert I had seen many ostriches, but none of them had put its head into the ground and left its big black-and-white plumed body for me to shoot at. On the contrary, in this my first experience with them I found them exceedingly wary. They kept their bodies hidden behind the bush. Only their heads were exposed, each head only about large enough to carry a pair of very keen eyes and much too small to serve as a target at the distance that they maintained. As a result of being continually outwitted by them for

two days I began to think ill of the man who originally started the story about their stupidity.

With the difficulties of the chase firmly in mind I set out early on the third day to see if I could get a specimen. Concluding that the smaller the party the better the opportunity, I took only a mule and my pony boy. When only a half mile from camp I met an old hyena who was loafing along after a night out. He looked like a good specimen, but after I shot him, one look at his dead carcass was enough to satisfy me that he was not as desirable as I had thought, for his skin was badly diseased. I had very good reason to think of this very hard later in the day. A little farther along I shot a good wart hog for our scientific collection. Leaving the specimen where it lay, I marked the spot and continued in search of the plume-bearers.

Soon after this I climbed to the top of a termite hill about eight feet high to look the country over with field glasses. As I held the glasses to my eyes while adjusting the focus, I suddenly realized that the letter S that I was focussing on was the head and neck of an ostrich and that there was a second letter S beside it. The birds remained perfectly motionless watching and I did likewise, locating their position meanwhile by the termite hills which were nearly in line between us. Suddenly the heads ducked and disappeared behind the bush. I dropped from my perch and ran rapidly to where they had been, but found only their trail in the sand.

When I had given up tracking them and was about

to start farther afield I came into an opening in the bush that was about thirty yards wide and two hundred yards long. Near the centre of the opening was a dense green bush a dozen feet in diameter. A beautiful cock ostrich broke into the clearing at full speed just below the bush and as I raised my rifle he disappeared behind the bush. I held ready to catch him as he passed out from behind it on the other side, where there was fifteen or twenty yards of clear ground before he would reach cover again. I stood there ready with my gun up until I felt foolish. Then I ran quickly to the bush expecting to find him just on the other side. He was nowhere in sight, but his trail told the story. As he had come into the open he had seen me and when behind the bush he had stopped short, as indicated by a great hole and swirl of sand where he had caught himself by one foot, had turned at right angles and run straight away the length of the clearing, keeping the bush between himself and his enemy. I have not known many animals to do a more clever thing than this. I got one shot at him later—putting my sights at three hundred yards—but the bullet struck in the sand between his legs.

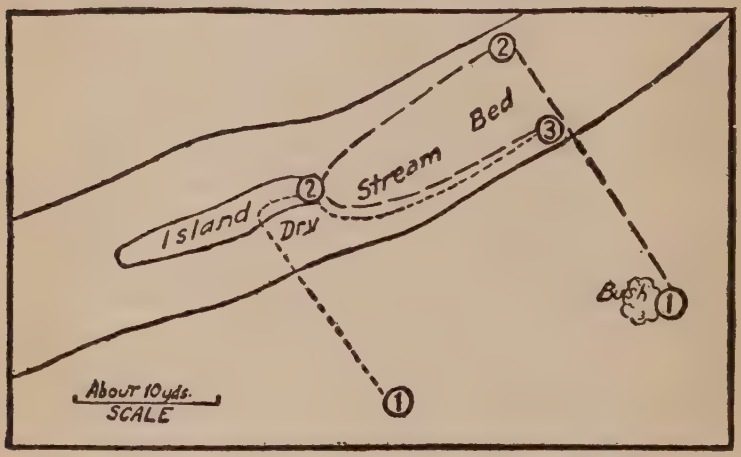
We returned to camp later in the afternoon and after a little rest and refreshment I started out again with only the pony boy and carrying the necessary tools to get the head of the wart hog that I had shot in the morning. We had no difficulty in finding the place where I had shot him, but there was nothing to be seen of the pig. The place was strewn with vulture features, but surely vultures could not make away

with the head. A crash in the bushes at one side led me in a hurry in that direction and a little later I saw my pig's head in the mouth of a hyena travelling up the slope of a ridge out of range. That meant that my wart hog specimen was lost, and, having got no ostriches, I felt it was a pretty poor day.

The sun was setting, and with little to console us the pony boy and I started for camp. As we came near to the place where I had shot the diseased hyena in the morning, it occurred to me that perhaps there might be another hyena about the carcass, and feeling a bit "sore" at the tribe for stealing my wart hog, I thought I might pay off the score by getting a good specimen of a hyena for the collections. The pony boy led me to the spot, but the dead hyena was nowhere in sight. There was the blood where he had fallen, and in the dusk we could make out a trail in the sand where he had been dragged away.

Advancing a few steps, a slight sound attracted my attention, and glancing to one side I got a glimpse of a shadowy form going behind a bush. I then did a very foolish thing. Without a sight of what I was shooting at, I shot hastily into the bush. The snarl of a leopard told me what kind of a customer I was taking chances with. A leopard is a cat and has all the qualities that gave rise to the "nine lives" legend. To kill him you have got to kill him clear to the tip of his tail. Added to that, a leopard, unlike a lion, is vindictive. A wounded leopard will fight to a finish practically every time, no matter how many chances it has to escape. Once aroused, its determination is

fixed on fight, and if a leopard ever gets hold, it claws and bites until its victim is in shreds. All this was in my mind, and I began looking about for the best way out of it, for I had no desire to try conclusions with a possibly wounded leopard when it was so late in the day that I could not see the sights of my rifle.



The dotted line indicates Mr. Akeley's movement during his encounter with the leopard. The dashes show the route taken by the leopard. At position (1), Mr. Akeley fired into the bush. Of the three shots fired at position (2), two went above the leopard and the third inflicted only a skin wound. The hand-to-hand combat took place at position (3).

My intention was to leave it until morning and if it had been wounded, there might then be a chance of finding it. I turned to the left to cross to the opposite bank of a deep, narrow *tug* and when there I found that I was on an island where the *tug* forked, and by going along a short distance to the point of the island I would be in position to see behind the bush where the leopard had stopped. But what I had started

the leopard was intent on finishing. While peering about I detected the beast crossing the *tug* about twenty yards above me. I again began shooting, although I could not see to aim. However, I could see where the bullets struck as the sand spurted up beyond the leopard. The first two shots went above her, but the third scored. The leopard stopped and I thought she was killed. The pony boy broke into a song of triumph which was promptly cut short by another song such as only a thoroughly angry leopard is capable of making as it charges. For just a flash I was paralyzed with fear, then came power for action. I worked the bolt of my rifle and became conscious that the magazine was empty. At the same instant I realized that a solid point cartridge rested in the palm of my left hand, one that I had intended, as I came up to the dead hyena, to replace with a soft nose. If I could but escape the leopard until I could get the cartridge into the chamber!

As she came up the bank on one side of the point of the island, I dropped down the other side and ran about to the point from which she had charged, by which time the cartridge was in place, and I wheeled —to face the leopard in mid-air. The rifle was knocked flying and in its place was eighty pounds of frantic cat. Her intention was to sink her teeth into my throat and with this grip and her forepaws hang to me while with her hind claws she dug out my stomach, for this pleasant practice is the way of leopards. However, happily for me, she missed her aim. Instead of getting my throat she was to one side. She

struck me high in the chest and caught my upper right arm with her mouth. This not only saved my throat but left her hind legs hanging clear where they could not reach my stomach. With my left hand I caught her throat and tried to wrench my right arm free, but I couldn't do it except little by little. When I got grip enough on her throat to loosen her hold just a little she would catch my arm again an inch or two lower down. In this way I drew the full length of the arm through her mouth inch by inch. I was conscious of no pain, only of the sound of the crushing of tense muscles and the choking, snarling grunts of the beast. As I pushed her farther and farther down my arm I bent over, and finally when it was almost freed I fell to the ground, the leopard underneath me, my right hand in her mouth, my left hand clutching her throat, my knees on her lungs, my elbows in her armpits spreading her front legs apart so that the frantic clawing did nothing more than tear my shirt. Her body was twisted in an effort to get hold of the ground to turn herself, but the loose sand offered no hold. For a moment there was no change in our positions, and then for the first time I began to think and hope I had a chance to win this curious fight. Up to that time it had been simply a good fight in which I expected to lose, but now if I could keep my advantage perhaps the pony boy would come with a knife. I called, but to no effect. I still held her and continued to shove the hand down her throat so hard she could not close her mouth and with the other I gripped her throat in a strangle hold. Then I surged down on

her with my knees. To my surprise I felt a rib go. I did it again. I felt her relax, a sort of letting go, although she was still struggling. At the same time I felt myself weakening similarly, and then it became a question as to which would give up first. Little by little her struggling ceased. My strength had outlasted hers.

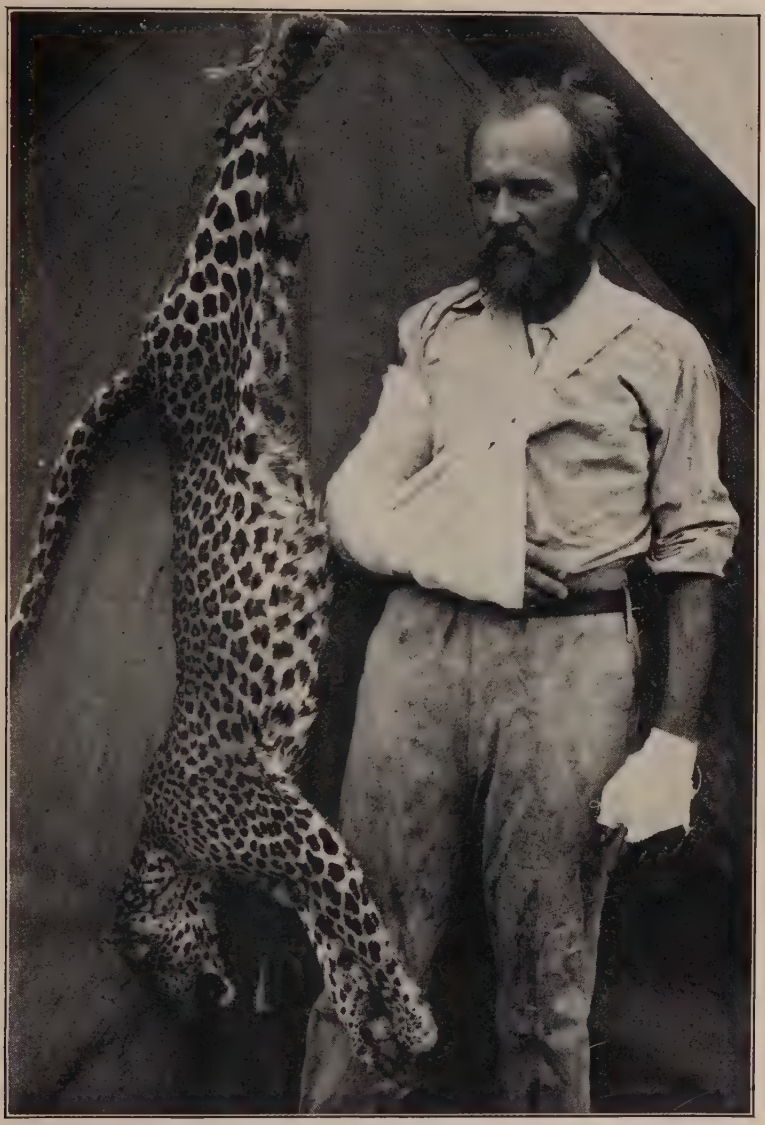
After what seemed an interminable passage of time I let go and tried to stand, calling to the pony boy that it was finished. He now screwed up his courage sufficiently to approach. Then the leopard began to gasp, and I saw that she might recover; so I asked the boy for his knife. He had thrown it away in his fear, but quickly found it, and I at last made certain that the beast was dead. As I looked at her later I came to the conclusion that what had saved me was the first shot I had fired when she went into the bush. It had hit her right hind foot. I think it was this broken foot which threw out the aim of her spring and made her get my arm instead of my throat. With the excitement of the battle still on me I did not realize how badly used up I was. I tried to shoulder the leopard to carry it to camp, but was very soon satisfied to confine my efforts to getting myself to camp.

When I came inside the *zareba*, my companions were at dinner before one of the tents. They had heard the shots and had speculated on the probabilities. They had decided that I was in a mix-up with a lion or with natives, but that I would have the enemy or the enemy would have me before they could get to

me; so they had continued their dinner. The fatalistic spirit of the country had prevailed. When I came within their range of vision, however, my appearance was quite sufficient to arrest attention, for my clothes were all ripped, my arm was chewed into an unpleasant sight, and there was blood and dirt all over me. Moreover, my demands for all the antiseptics in camp gave them something to do, for nothing was keener in my mind than that the leopard had been feeding on the diseased hyena that I had shot in the morning. To the practical certainty of blood poisoning from any leopard bite not quickly treated was added the certainty that this leopard's mouth was particularly foul with disease. While my companions were getting the surgical appliances ready, my boys were stripping me and dousing me with cold water. That done, the antiseptic was pumped into every one of the innumerable tooth wounds until my arm was so full of the liquid that an injection in one drove it out of another. During the process I nearly regretted that the leopard had not won. But it was applied so quickly and so thoroughly that it was a complete case.

Later in the evening they brought the leopard in and laid it beside my cot. Her right hind foot showed where the first shot had hit her. The only other bullet that struck her was the last before she charged and that had creased her just under the skin on the back of the neck, from the shock of which she had instantly recovered.

This encounter took place fairly soon after our



MR. AKELEY AND THE LEOPARD HE KILLED BARE-HANDED

A LEOPARD SPEARED BY THE NATIVES

arrival on my first trip to Africa. I have seen a lot of leopards since and occasionally killed one, but I have taken pains never to attempt it at such close quarters again. In spite of their fighting qualities I have never got to like or respect leopards very much. This is not because of my misadventure; I was hurt much worse by an elephant, but I have great respect and admiration for elephants. I think it is because the leopard has always seemed to me a sneaking kind of animal, and also perhaps because he will eat carrion even down to a dead and diseased hyena. A day or two before my experience with the leopard someone else had shot a hyena near our camp and had left him over night. The next morning the dead hyena was lodged fifteen feet from the ground in the crotch of a tree at some distance from where he was killed. A leopard, very possibly my enemy, had dragged him along the ground and up the tree and placed him there for future use. While such activities cannot increase one's respect for the taste of leopards, they do give convincing evidence of the leopard's strength, for the hyena weighed at least as much as the leopard.

The leopard, like the elephant, is at home in every kind of country in East Africa—on the plains, among the rocky hills, among the bamboo, and in the forest all the way up to timber line on the equatorial mountains. Unlike the lion, the leopard is a solitary beast. Except for a mother with young, I have never seen as many as two leopards together. It is my belief that like the lion they do their hunting at night almost

exclusively, and I am quite sure that this is their general habit despite the fact that the only unmistakable evidence of day hunting I ever saw myself in Africa was done by a leopard. I was out one day in some tall grass and came upon the body of a small antelope. As I came up I heard an animal retreat and I thought I recognized a leopard's snarl. The antelope was still warm. It had evidently just been killed and the tracks around it were those of a leopard.

One of the leopard's chief sources of food supply consists of monkeys and baboons. I remember a certain camp we had near the bottom of a cliff. Out of this cliff grew a number of fig trees in which the baboons were accustomed to sleep fairly well out of reach of the leopards. They were, however, not completely immune, and we could hear the leopards at the top of the cliff almost every night, and once in a while the remnants of a baboon testified to the success of the leopard's night prowling. Besides monkeys and baboons, leopards seem inordinately fond of dogs. A pack of dogs like Paul Rainey's can make short work of a leopard, but on the other hand a leopard can make short work of a single dog and seemingly takes great pleasure in doing so. One night in a shack in Nyiri, a settler sat talking to his neighbour, while his dog slept under the table. Suddenly, and quite unannounced, a leopard slipped in through the open door. Confusion reigned supreme for a moment and then the men found themselves on the table. The leopard was under the table killing the dog and

somehow in the excitement the door had been closed. One after the other the men fled out of the window, leaving the dog to his fate. A traveller had a similar but more painful experience with a leopard at the Dak Bungalow at Voi. Voi is a station on the Uganda Railroad where there was, and I suppose still is, a railroad hotel of a rather primitive kind known as the Dak Bungalow. One night a man was sleeping in one of the Bungalow rooms and, hearing a commotion outside, he started out to see what it was. As he passed through the open doorway on to the porch he was attacked by the leopard that had evidently come stalking his dogs.

Leopards are not particularly afraid of man. I never knew one to attack a man unprovoked except when caught at such close quarters as the case at Voi, but they prowl around man's habitation without compunction. I had a camp in Somaliland once where the tents were surrounded by two thorn thickets—the inner and outer *zareba*. A leopard came in one night, killed a sheep, dragged it under the very fly of my tent on the way out, jumped the *zareba*, and got away. Fifteen years ago, when Nairobi was a very small place, the daughter of one of the government officers went into her room one evening to dress. As she opened the door she heard a noise and looking she noticed the end of a leopard's tail sticking out from under the bed with the tip gently moving from side to side. With great presence of mind the young lady quietly went out and closed the door. Nairobi had many possibilities of thrills in those days. It

was about the same time that a gentleman hurrying from town up to the Government House one evening met a lion in the middle of the street to the embarrassment of both parties.

There are some phrases in Tennyson's "Charge of the Light Brigade" that put me in mind of the rhinoceros, or "rhino," as everyone calls him in Africa.

"Theirs not to reason why, theirs but to do and die."

But it is stupidity, not duty, that keeps the rhino from reasoning. He is the stupidest old fellow in Africa. I know that many experienced hunters likewise consider him one of the most dangerous animals in Africa. I can't quite agree with this. Of course, if he runs over you not only is it dangerous, but it is also likely to be fatal. It is also true that as soon as he smells man he is likely to start charging around in a most terrifying manner, but the rhino is never cunning like the elephant, nor is his charge accurate like that of a lion, nor is the rhino vindictive like the buffalo or the leopard. Most men's estimates of the relative dangers of African animals are based upon their own experiences. The animals that have mauled them worst or scared them worst they hold most dangerous. I have been mauled by an elephant, chewed by a leopard, and scared half to death a dozen times by lions, so that I have the very firmest convictions about the dangers of these animals. On the other hand, I have twice been caught by rhinos in positions where an elephant, a lion, or a leopard would

have had me in no time, and both times the rhinos left me unmolested.

When I first went to Africa I had the same experience as everyone else. Rhinos getting wind of me would charge me and to save myself I'd shoot. I suppose I had stood off twenty of these charges with my rifle before I discovered that if I did not shoot it would not necessarily be fatal. I discovered the fact, of course, quite by accident. I was going along the bank of the Tana River one day with my camera. My gun boys were some distance behind so as not to disturb any animal that might afford a picture. Suddenly I was set all a-quiver by the threshings and snortings of a rhino coming through the bushes in my direction. I very hastily took stock of the situation. There was nothing to climb. Between me and the thicket from which the rhino was coming was about twenty-five feet of open space. Behind me was a 30-foot drop to the crocodile-infested waters of the Tana. The only hope I saw was a bush overhanging the brink which looked as if it might or might not hold me if I swung out on it. I decided to try the bush and let the rhino land in the river, trusting to luck that I wouldn't join him there. The bushes were thrust aside and he came full tilt into the opening where he could see me. Everything was set for the final act. He suddenly stopped with a snort. His head drooped. His eyes almost closed. He looked as if he were going to sleep. The terrible beast had become absolutely ludicrous. While this was going on I felt a poke in my back. I reached

behind and took my rifle from the gun boy who had come up with equal celerity and bravery. I drew a bead on the old fellow but I could not shoot. A stupider or more ludicrous looking object I never saw. I began talking to him, but it did not rouse him from his lethargy. There he stood, half asleep and totally oblivious, while I, with the gun half aimed, talked to him about his ugly self. About this time my porters came into hearing on a path behind the rhino. He pricked up his ears and blundered off in that direction. I heard the loads dropping as the porters made for the trees. The rhino charged through the *safari* and off into the bush.

At another time, somewhat later, three of them charged me when I was sitting down and unarmed. I couldn't rise in time to get away or reach a gun, so I merely continued to sit. This time they didn't stop and doze, but they went by on both sides ten or fifteen feet away. Such a charge was much more pleasing to me and apparently quite as satisfactory to them as one in which they were successful in their attack. These experiences have led me to think that in his blundering charges the rhino has no clear objective, as a lion has, for instance. Even his blundering charge is dangerous, of course, if you are in the way, but I firmly believe that the rhino is too stupid to be either accurate in his objective, fixed in his purpose, or vindictive in his intentions.

This does not mean that a lot of people have not been killed by rhinos. They have; but I do believe that compared with other African animals the danger

of the rhino is generally exaggerated. When he smells something he comes toward the scent until he sees what it is. As he can't see very far, no man with a gun is likely to let him come within seeing distance without shooting. So the stupid old beast goes charging around hoping to see the source of what he smells and in addition to getting himself shot has made a reputation for savagery. In fact, he has blundered around and been shot so much that old rhinos with big horns are growing scarce.

I remember coming up over the top of a little rise one day and seeing across the plain an old rhino standing motionless in the shade of a solitary acacia about two hundred yards away. The usual tick birds sat on his back. It was a typical rhino pose. As I stood looking for more entertainment, a second rhino came mouching along between me and number one. Number one evidently heard him. The birds flew off his back, he pricked up his ears, and broke into a charge toward number two. Number two reciprocated. Their direction was good and they had attained full speed. I longed for a camera to photograph the collision. But the camera would have done me no good. The collision did not happen. When about twenty feet from each other they stopped dead, snorted, and turned around, number one returning to doze under his tree and number two continuing the journey which had been interrupted. I suppose that rhinos have acquired the habit of charging whenever they smell anything because until the white man came along they could investigate in this peculiar

manner with impunity. Everything but an elephant or another rhino would get out of the way of one of these investigating rushes, and of course an elephant or another rhino is big enough for even the rhino's poor eyes to see before he gets into trouble.

The coming of the white man with the rifle upset all this, but the rhino has learned less about protecting himself from man than the other animals. Man went even further in breaking the rules of rhino existence. The railroad was an even worse affront than the rifle. The rhino furnished some of the comedy of the invasion of the game country by the Uganda Railway. In the early days of that road a friend of mine was on the train one day when a rhino charged it. The train was standing still out in the middle of the plain. An old rhino, either hearing it or smelling man, set out on the customary charge. The train didn't move and he didn't swerve. He hit the running board of one car at full speed. There was a terrific jolt. My friend rushed to the platform. As he reached it the rhino was getting up off his knees. He seemed a little groggy but he trotted off, conscious, perhaps, that railroad trains cannot be routed by the rhino's traditional method of attack.

CHAPTER VI

ALONG THE TRAIL

THE land teems with the beasts of the chase, infinite in number and incredible in variety. It holds the fiercest beasts of ravin, and the fleetest and most timid of those beings that live in undying fear of talon and fang. It holds the largest and the smallest of hoofed animals. It holds the mightiest creatures that tread the earth or swim in its rivers; it also holds distant kinsfolk of these same creatures, no bigger than woodchucks, which dwell in crannies of the rocks and in tree tops. There are antelope smaller than hares and antelope larger than oxen. There are creatures which are the embodiments of grace, and others whose huge ungainliness is like that of a shape in a nightmare. The plains are alive with droves of strange and beautiful animals whose like is not known elsewhere; and with others even stranger that show both in form and temper something of the fantastic and the grotesque."

So Theodore Roosevelt, in that vivid word picture of jungle sights and sounds, the foreword of "African Game Trails," suggests the vast variety of animal acquaintances the hunter may make in Africa. I have sought out or happened upon many others besides my particular friends, the elephants and gorillas.

One of those whose "huge ungainliness is like that of a shape in a nightmare" is the hippopotamus. The small dugout in which the native makes his way up and down the Tana River is just a nice mouthful for him. He can splinter one between his great jaws in no time if he is sufficiently stirred up, but fortunately for the natives he is not easily enraged. He is more or less like the rhinoceros except that, while he is equally stupid, he rarely gets mad and so is not often dangerous.

Along the Tana River in 1906 the hippos were still very abundant, and I presume that a hunter passing along that stream to-day might shoot all he could possibly want. Although I saw probably only a small proportion of all I actually passed, I counted more than two hundred in a ten-mile march along the Tana. Sheltered by the rather high and precipitous banks of the river, the hippopotami if undisturbed bask quietly on the sand-bars during the day. If one is disturbed, he takes to the water, leaving exposed only the top of his head, his eyes, and nostrils, so that if he remains motionless one usually has to spend some time to determine whether the object protruding from the water is a hippo's head or a slate-coloured rock. If really frightened, he submerges entirely, exposing only his nostrils and those just long enough to blow and take in a fresh supply of air. Then down he goes, not to appear again for several minutes, frequently in quite a different place.

Cuninghame and I had a good opportunity to test

his disposition one day as we were crossing Lake Naivasha. I was sitting at the tiller in the stern of the boat about half asleep in the hot sun of midday when there was a sudden explosion and our boat was lifted well out of the water. The keel had struck the back of a submerged hippopotamus. He came up thirty yards away with his mouth open, but he made no attempt to attack. We had the good luck to come down right side up, shipping only a little water. I hope he was as badly frightened as I was.

Because he is so little sport, even the pot hunters have left the hippo alone. However, most of the African tribes consider hippopotamus meat good eating and he is frequently killed by the natives for food. The fact is that in times of famine this animal is a valuable source of supply. In 1906, when we were on the Tana River, I found a bone yard with the bones of a great number of hippopotami along with various human bones. In a famine some fifteen or twenty years earlier, so the story goes, the natives had gravitated toward the Tana River to kill hippopotami to keep from starving and there had fought over this last source of food.

Double rows of tracks with grass growing between them, like those made by a wagon, trail along the Tana and are cut deep into the river's banks, where through long years the hippos have come up at night to graze and browse. His is a double track, because in travelling he does not place one foot before the other. He finds no food in the water, but he is at home there, and sometimes travels long distances

overland from one pool or stream to another. How far he treks in this way I do not know, and the question is much disputed. I am certain that it is sometimes as much as fifty miles.

While I have found but little enjoyment in shooting any kind of animal, I confess that in hunting elephants and lions under certain conditions I have always felt that the animal had sufficient chance in the game to make it something like a sporting proposition. On the other hand, much of the shooting that I have had to do in order to obtain specimens for museum collections has had none of this aspect at all and has made me feel a great deal like a murderer. One of the worst of my experiences was with the wild ass of Somaliland on my first trip to Africa. These animals are rare, and as they are the only members of the horse family in that part of Africa, the Field Museum of Natural History was anxious to get specimens of them.

After several heart-breaking days' work my companion, Dodson, and I had secured but one specimen and several were needed for a group. One day under guidance of natives who promised to take us to a country where they abounded, we started out at three o'clock in the morning, with a couple of camels to bring back the skins if we got them. At about eight, as we were crossing a sandy plain where here and there a dwarfed shrub or tuft of grass had managed to find sustenance, one of the gun-bearers pointed out in the distance an object which he de-

clared to be an ass. We advanced slowly. As there was no cover, there was no possibility of a stalk, and the chance of a shot at reasonable range seemed remote, for we had found in our previous experience that the wild ass is extremely shy and when once alarmed travels rapidly and for long distances. We approached to within two hundred yards and had begun to think that it was a native's tame donkey and expected to see its owner appear in the neighbourhood, when it became uneasy and started to bolt; but its curiosity brought it about for a last look and we took advantage of the opportunity and fired. It was hard hit, apparently, but recovered and stood facing us. We approached closer, and thinking it best to take no chances fired again—and then he merely walked about a little, making no apparent effort to go away. We approached carefully. He showed no signs of fear, and although "hard hit" stood stolidly until at last I put one hand on his withers and, tripping him, pushed him over. I began to feel that if this was sport I should never be a sportsman.

We now discovered that our scant supply of water was exhausted and although we wished to continue the hunt we realized that to get farther from camp without water would be risky indeed. The guide had assured us that there would be plenty of opportunity to get water on our route but we knew that it was five hours back to water, the way we had come, and five hours without water in the middle of the day would mean torture. It is said that in that region thirty hours without water means death to the native and

twelve hours is the white man's limit. The guide assured us that if we would continue on an hour longer we would find water. After four hours of hard, hot marching we arrived at a hole in the ground where some time there had been water but not a drop remained. After a little digging at the bottom of the hole the natives declared there was no hope. Our trail for the last hour had been under a pitiless noonday sun along a narrow valley shut in on either side by steep, rocky hills, while we faced a veritable sand storm, a strong, hot wind that drove the burning sand into our faces and hands. The dry well was the last straw.

The guides said there was one more hole about an hour away and they would go and see if there was water there. They with the gun-bearers started out, while we off-saddled the mules and using the saddles for pillows and the saddle blankets to protect our faces from the driving sand, dozed in the scant shade of a leafless thorn tree.

At four o'clock the boys returned—no water. Dodson and I received the report, looked at one another, and returned to our pillows beneath the saddle blankets. A little later a continued prodding in the ribs from my gun-bearer brought me to attention again as he pointed out an approaching caravan consisting of several camels and a couple of natives. Each of the natives carried a well-filled goatskin from his shoulders, and realizing that these goatskins probably contained milk, I knew that our troubles were nearly over. I instructed the gun-bearer to make a bargain

for part of the milk and covered my head again to escape the pelting of the sand and waited.

We were both in a semi-comatose state and I paid no further attention to proceedings until I was again prodded by the gun-bearer who was now greatly excited. He pointed to the receding camels while he jabbered away to the effect that the natives would not part with any of the plentiful supply of milk. The white men might die for all they cared.

When I had come to a realization of the situation, there seemed to be only one solution to the affair—a perfectly natural solution—precisely the same as if they had stood over us with their spears poised at our hearts. I grabbed my rifle and drew a bead on one of the departing men and called to Dodson to get up and cover the other. I waited while Dodson was getting to an understanding of the game and then when he was ready and I was about to give the word the natives stopped, gesticulating wildly. The gun-bearer who had been shouting to them told us not to shoot, that the milk would come, and it did. Milk! Originally milked into a dung-lined smoked *chattie*, soured and carried in a filthy old goatskin for hours in the hot sun. But it was good. I have never had a finer drink.

An hour before sundown, greatly refreshed, we started back to camp. Just at dusk the shadowy forms of five asses dashed across our path fifty yards away and we heard a bullet strike as we took a snap at them. One began to lag behind as the others ran wildly away. The one soon stopped and we ap-

proached, keeping him covered in case he attempted to bolt. As we got near he turned and faced us with great, gentle eyes. Without the least sign of fear or anger he seemed to wonder why we had harmed him.

The only wound was from a small bullet high in the neck, merely a flesh wound which would have caused him no serious trouble had he continued with the herd. We walked around him within six feet and I almost believe we could have put a halter on him. Certainly it would have been child's play to have thrown a rope over his head. We reached camp about midnight and I announced that if any more wild asses were wanted, someone else would have to shoot them. I had had quite enough. Normally, the ass is one of the wildest of creatures and it is difficult to explain the actions of these two. They appeared not to realize that we were the cause of their injuries but rather seemed to expect relief as we approached—and yet one English "sportsman" boasted of having killed twenty-eight.

While I have never had a zebra stand after being wounded, in all other respects his habits resemble very closely those of his kin, the wild ass of Somaliland. Occasionally, man has captured and domesticated zebras so that he may use them in a four-horse team. But this is done only for the amusement it affords, because the zebra, like all wild animals, has never quite enough of the endurance that is bred into a domesticated horse to make him useful in harness. In wild life he requires only sufficient stamina to outrun a lion for a short distance.

There is no fun in shooting zebras and wild asses. It makes one uncomfortable. Probably we are particularly thin-skinned when it comes to shooting the members of the horse family because we are used to them, or at least to their kindred, as domesticated friends, but as a matter of fact that is quite as reasonable as to think of killing deer or antelope as a sport. With most deer there is no danger. The only problem is to get close enough for a shot. While an approach may be difficult in some parts of the world —and this is true with certain species of antelope in Africa—most of the plains antelope cannot be shot on the ground of sport. For food and scientific purposes, however, the case is different.

One of the hardest to shoot among the so-called bovine antelopes is the koodoo. He is a beautiful, high-bred animal with clean-cut head and long spiral horns. While almost as large as an elk, he is gracefully built and stylish in action. His coat is gray, delicately marked with white stripes. As the animal matures, the hair becomes short and thin and the stripes fade. All in all, the koodoo is one of the finest big antelope. On that score he has no competitors except the sable and the roan.

A group of greater koodoos was a particular desideratum of the Field Museum and therefore one of the special objectives of my first African trip. As a matter of fact, we succeeded in collecting the material necessary and the group is on exhibition in the Field Museum in Chicago now. The old bull standing with lifted head on top of the rock in the present

group was the second koodoo that I ever saw. The first one was his mate whom I was about to shoot, totally unconscious of the presence of the old bull. He stood beside her, his outline broken up by surrounding rocks and bushes, and I overlooked him entirely until he began to move. As he started to run I fired a shot. He bounded into the air, and as he struck the ground I fired again. The first shot had gone through his heart and the second broke his back.

When talking to people about shooting, I like to recall my koodoo experiences, because, while I am not a good shot as shooting goes in Africa, my two experiences with koodoos compare pretty favourably with the best. On the first occasion, one of my two shots landed in the heart and the other broke the koodoo's back. In my next koodoo hunt, my shooting was even more remarkable and for me more unusual. I came in sight of this second koodoo when he was too far away to shoot at and he rapidly ran out of sight through a country of little hills and ravines and scrub growth. I tracked him until I lost his trail. Then I decided to try to follow him by instinct and, constituting myself an escaping koodoo, I went where I thought such an animal should. I knew I was not exactly on his route because I could see no tracks. Then, too, something cord-like, weaving together the bushes on either side of my path, for a moment impeded my progress. It was a strand of web, the colour of gold, spun by a handsome yellow spider with black legs. Twisted together, it was substantial enough to be wound around and

around my watch chain where I wore it for several years. Had my koodoo passed between those bushes, the web would, I knew, have been his necklace instead of my watch charm.

After following instinctively for two or three miles, I came to the top of a ridge which looked down across a ravine 500 to 600 yards wide. I crawled to the edge and looked over carefully, hoping to see my prey, but as I saw nothing I decided to get up and either scare him or give up the chase. As I stood up I saw him halfway across the ravine a little more than 300 yards away. When I rose, he began to run in the opposite direction. I had little chance of hitting him and so I fired at the rocks on the other side of the ravine. The wind was blowing from him to me and I did not know how distinctly he could hear the rifle, but there was no doubt about his hearing the rocks clatter down where the bullets struck. He stopped abruptly, listening, and as he did so I lay down and rested my rifle on the rocks. He was pausing behind a candelabra euphorbia so that I could see nothing but his head. I took careful aim and fired. A fraction of a second after the shot, when I had recovered from the kick of the rifle and had focussed my eyes on the spot, the koodoo was nowhere in sight. When I reached the euphorbia, he lay there dead. I looked him over to find where the bullet had hit him but found no sign of it. I turned him over and looked at his other side with no better results except that I found a few drops of blood. On further search I discovered that the bullet had gone

in behind his ear. As he listened to the falling rocks, the ear had been thrown forward; as he fell, the ear had swung back to normal position and covered the tiny hole made by the full mantled bullet. The bullet had come out of his eye, but when I got there the eye was closed, so that the point of exit had been concealed also.

One day as I approached the hills, while I was still hunting koodoo for my group, I saw in the distance four animals which I took to be koodoo. They stood on a rock-strewn slope beneath an acacia tree and, as there were no horns visible, I assumed that they were cows and calves. I required one of each to complete my group. I made a careful stalk along the same ravine from which I had approached my first koodoo and, when I thought that I was at about the right point, I peered out and found the animals standing where I had seen them first, apparently about 200 yards away. I fired, and one dropped in his tracks. They were startled but had not located my direction and ran about confusedly. My second shot dropped another and the third shot wounded one which ran almost directly toward us. He covered the distance in an amazingly short time and went down beneath the bush only a little way from me. It was then that I came to a realization of what was happening. Instead of being koodoo 200 yards away, these were antelope pygmies less than 50 yards away and not more than twenty-three inches high at the shoulder. I had been completely fooled, but by what? That was the question.

I went over to the bush where the wounded animal had gone down near me, and stood for a moment looking at him open-mouthed and wondering what he was. Never had I heard of such an antelope. He had sharp straight horns four inches long and was a beautiful French gray in colour. Before I could observe anything else, he sprang to his feet and darted away on three legs faster, it seemed to me, than anything I had ever seen travel. I shot several times but never touched him. I followed for hours but did not overtake him. Later I learned that he was one of the little beira antelope. The species had been described some time before from fragments of skin obtained from natives. As far as records show, these specimens, an adult female and a half-grown one, were the first specimens taken by a white man.

This is a good example of a mistake that a hunter may easily make where there is nothing about of known size to give scale. The outline of the beira, characterized by the large ears, is almost a miniature of that of the koodoo. These tiny antelope had stood against a background of acacias on a pebbly slope. Acacias grow both large and small and a pebble among pebbles on a distant hillside may appear as a large boulder.

I continued hunting the little devils in a desperate effort to get a male at least. Several times I spent the day working about the two cone-shaped hills, now and then catching glimpses of the beira, only to have them disappear before I could shoot or get near enough to shoot. Several times when leaving the

hills at dusk I turned around to see just on the skyline the heads and necks of three little antelope watching me as I went away discouraged. I believe they are the cunningest little beasties in all Africa.

As my beira antelope was the first specimen ever taken—or at least recorded—by a white man, it was a record. Another record head which I took came equally by chance. One evening as I came out of the forest, after some rather troublesome experiences with elephants, I caught sight of a bush buck. He caught sight of me also, and instead of making off he seemed to glare at me and stood stamping his foot. I may have imagined his emotions, but it seemed to me that all the animals were angry with me that day. I remember that it went through my mind, "I believe this fellow is going to charge, too." Then it occurred to me that we needed meat in camp, so I shot him and told the boys to cut him up and bring him in. As soon as they reached him, they called to me and I went over to see what was the matter. They showed me an unusually fine head. So I saved it. It turned out to be the record bush buck head at that time and I am not sure that it is not still.

The lesser koodoo, which is to be found in Somaliland in the aloe country at the base of the Golis range, is likewise a truly sporting animal, keen of sight and scent and fleet of foot. My first lesser koodoo stood looking at me through a bush no more than twenty-five yards away. My gun boy tried to point him out to me but I saw nothing until something bit the koodoo's ear and he flicked it. Realizing that he

had given himself away, he jumped before I could shoot and I tracked him for an hour before I again came upon him. Then I saw him first. There is no finer sight in Africa than a lesser koodoo bull bounding over the spiny aloes with all of the grace of a porpoise in the water.

One of the most interesting antelope of Somaliland is the dibitag or Clark's gazelle. The dibitag live in the waterless bush country of the Haud and are shy and difficult to stalk. With their long legs and long necks they resemble and are closely related to the gerenuks (Waller's gazelle), but are less well known as they are confined to a limited range. In following an old male who had been travelling at full speed I found that its stride averaged twenty-eight feet, but at the same time he kept so close to the ground that midway of the stride, when one foot was carried forward, it scraped the sand. The animal weighs no more than seventy-five pounds. It is the most beautifully developed antelope I have ever handled, with muscles and loins rounded out like those of a prize fighter. These gazelle never have any fat and never drink any water. In fact, there is no water to be had except that in the vegetation, which is very little in a country where it has not rained for two years.

Unlike these sporting animals, the gazelle of the plains remind one of great herds of sheep, so gentle where they have not been hunted that one may come close enough to throw stones at them. On the other hand, where they have been shot, they grow wild and very difficult to approach. Here again is evidence

that the thing that makes animals wild is man. In the antarctics and other places where man has not previously come and where the animals know no fear, the explorer can fairly tickle the seals under the chin. Animals in their natural state are not instinctively afraid of man, but they have learned from sad experience that man is bad medicine.

In direct contrast to the camp in Somaliland where we had been forced to quench our thirst with soured goat's milk taken from a passing caravan at the point of a rifle, was our camp on Lake Hannington, the home of the flamingos. The caravan route from Nakuru on the Uganda Railway to Lake Baringo swings in close to the Laikipia Escarpment at the east side of the Rift Valley and just at the north end of Hannington. Therefore, travellers usually get their first view of the lake at this northern point where few flamingos are to be seen except in breeding season and where the water is shallow, bordered by low mud flats crusted with a deposit of salts mingled with feathers, bones, and the droppings of the great colony. If the unattractiveness of the place were not sufficient to discourage a disposition to explore the lake, the sickening stench from the green waters must dishearten any one who has not a definite object in further investigation. Being unfamiliar with the region, we ignored the trail which would have given us this forbidding northern approach. As we neared the escarpment from the south, we found a small stream of crystal-clear water, and although it was too

warm to be palatable, we were delighted with the discovery since the porters and horses were sadly in need of water. We decided to make camp here, and while selecting a place for the tents, the cook discovered a spring of boiling water which he appropriated for his uses. A little farther on a spring of ice-cold water was located so that we had all modern improvements as far at least as water supply was concerned.

After making camp, an hour's walk brought us to the top of a rocky hill from which we had an excellent view of nearly the entire length of the lake, an irregular sheet of water eight or ten miles long by perhaps two miles at the widest point. It lay before us, a shimmering blue-green mirror with occasional strips of snow-white beach. At the south end, that part nearest us, the water was much darker in colour owing to its greater depth, and the steep slopes of the escarpment were mirrored in its surface. Here and there along the shores jets and clouds of steam spurted forth from the numerous boiling springs and miniature geysers. Far away toward the centre of the lake what seemed great peninsulas and islands of rosy pink broke the placid surface of the lake—these were the flamingos that we had come to see.

A two hours' journey up the tortuous rock-strewn western shore brought us to the region which seems to be their favourite haunt. On our approach, the great flocks rose from the water and flew across toward the opposite shore, many alighting in mid-lake. As the birds arose, the splashing of water made by

their running over the surface to get a start, the beating of wings, and the "kronk-kronk" of their calls created an indescribable din, while the charm of the marvellously beautiful sight was tempered by the odours that arose from the putrid waters churned by the activity of the birds.

The flamingos that had settled in mid-lake soon began to drift back in our direction and we hurriedly constructed a rude blind of green boughs on the shore. Here I awaited their return, camera in position, and within half an hour was surrounded by acres of the beautiful creatures. The greater number of the birds proved to be of the small, more brilliantly coloured species of African flamingo (*Phoenicopterus minor*), although a few of the larger species (*Phoenicopterus roseus*) were in small isolated flocks or scattered here and there among their smaller relatives. Evidently flamingos spend the entire year at Lake Hannington. So greatly did they interest us on this January visit that we returned in May hoping to find them nesting, but we were some six weeks too late. The young birds in their gray plumage were abundant and traces of the nests were to be seen at the north end of the lake.

One soon forgets about snakes in Africa although there are many poisonous species. In my experience of more than five years in the jungles, wandering about with from one hundred to two hundred and fifty semi-naked, barefoot men, I have never had to deal with a snake bite. On my last journey to the Kivu I had glimpses of two snakes all told.

Nor have I been pestered by mosquitoes. In all my African experience I have never had as many mosquitoes to contend with as I have had in a single night in my apartment on Central Park West. However, one avoids a single African mosquito as one would avoid the pest, because that is just what he may turn out to be. For six months at a time my mosquito nets have remained in the duffle bags.

In the game country there are millions of ticks, but as a rule their worst offence is simply to crawl over one. The spirillum tick must be avoided. I have never seen one but I have been incapacitated and brought near the door of death as a result of his work. And when the jigger decides to establish a colony under one's toenails he cannot be too quickly nor too carefully dispossessed.

There are other pests besides insects, snakes, and drouth to be guarded against in Africa. One of these is fire. In making a camp, it is always wise to burn off the ground about the tents for the sake of protection. The most strenuous fight I ever had to make against a grass fire took place in Uganda the day that I killed the big bull elephant now in the Milwaukee Public Museum. We had been working hard from eleven o'clock in the morning until early evening. Meanwhile, camp had been made close to our work in a country of bush and high grass. Immediately surrounding our camp the grass was five feet high and very dense and dry. To the east of us was a great jungle of elephant grass, a sort of cane growing to a height of ten or fifteen feet. For two

or three hours I was conscious of a great fire to the east, but there was little wind and it travelled slowly. Whenever it came to one of the fields of elephant grass the roaring and crackling was quite appalling, and when it finally reached the clump of grass nearest our camp we realized that we would probably have to make a fight. There was no time to backfire and so we tried the next best thing. About twenty-five yards from the tents we started to make a trail stretching for a hundred yards across the path of the fire. This was done by bending the grass down on both sides, leaving a path along which we could move freely. Then the job was to stop the fire at the parting of the grass. A hundred men, each provided with an armful of green branches, scattered along this thin line to beat the fire out as it reached the division. We had a terrific fight. In several places the fire jumped across the trail, but each time enough men concentrated at that point to kill it before it got an overpowering foothold. It was hot, smoky, desperate work. When it was ended, the tents were safe although the men were thoroughly done up.

It was one of these grass fires, although by no means such a persistent one, that threatened Roosevelt's camp the night after our elephant hunt on the Uasin Gishu Plateau.

CHAPTER VII

BILL

HE IS a little Kikuyu thirteen years old who has attached himself to our *safari;* a useful little beggar, always finds something to busy himself with; better take him with you. We call him Bill. "Come here, Bill."

Bill came up—a little, naked, thirteen-year-old "Kuke" with great black eyes. The eyes did it. Mrs. Akeley decided that Bill should go with us. He was given a khaki suit two sizes too big for him which made the black eyes sparkle. He was made the assistant of Alli, Mrs. Akeley's tent boy, and his training as tent boy began.

In six months Bill had become a full-fledged tent boy, with plenty of time always at his disposal to mix up with almost everything going on in camp. I think of him now, after three expeditions in which he has been with me, as the best tent boy, the best gun-bearer, the best tracker, and the best headman that it has ever been my lot to know—a man who, I know, would go into practically certain death to serve me. If I were starting out on an expedition among unknown people in Africa I would rather have Bill as a headman and as a counselor in dealing with

the savages, even though they were people of whom Bill knew nothing, than any one I know of.

During that first six months' apprenticeship Bill was always busy. When there was nothing to do about camp he would borrow some of Heller's traps and set them for jackals, or he would be poking about the bush looking for lizards or snakes that we might want for the collections. Months passed, and Bill was an inconspicuous member of our little army of followers. We were camped on the top of the Aberdare; Cuninghame and I were returning from a fruitless four days on elephant trails. As we neared camp we saw Mrs. Akeley come out on the road ahead of us, with Alli acting as gun-bearer. An elephant had passed a few hundred yards from camp and she had come out to the road in the hope of getting a shot as it crossed. A little farther on toward camp we met Bill, stripped to the waist, carrying my 8 mm. rifle and a pocket of 6 mm. cartridges. If there was anything doing Bill had to be in it.

A few weeks later on, our wanderings took us into Kikuyu country and near to Bill's native village. He sent for his "mamma," to whom he wanted to give some of his earnings. So his mother came to camp and Bill introduced her. He led me out to where she was leaning against a rock, and pointing to her said, "mamma." She was a young *shenzie* woman of the usual type, dressed in a leather skirt and bead and brass ornaments.

One day Bill had the sulks and was scolded for not doing something that he had been told to do. He

said he knew his work and didn't have to be told what to do. It made him perfectly furious to be continually told to do things which he knew to be a part of his duties. Nor would he shirk his duties. If he failed to do things at the proper time, in nine cases out of ten it was because someone had been telling him to do the things and it had made him ugly. This characteristic is as pronounced now as ever, and has been the cause of the most of poor Bill's troubles.

At last our work was over and we returned to Nairobi to prepare for our departure from Africa. As soon as we arrived Bill demanded his pay. We wanted him to stay until we were ready to leave Nairobi, but no, he wanted to be free to spend his money; so he left us in spite of the fact that in doing so he sacrificed his *backsheesh*. He promptly spent all his money for clothes, having them made to order by the Indian traders, but within two weeks he had lost all the clothes in gambling. Thus ended Bill's first year's career as a tent boy.

Four years later we returned to East Africa. Several months previously, Alli and Bill had been engaged for the Roosevelt Expedition, but before we reached there Bill had disgraced himself, and had been turned out and black-listed. But knowing something of the probable conditions which had contributed to his downfall, we were glad to get him and he was glad to come. There were four of our party, and most of the other tent boys and the kitchen contingent were Swahilis, so we rather expected that Bill would have trouble. But his first real trouble

came of an exaggerated sense of loyalty to me, or at least that was his excuse. During my absence from camp one of my companions asked Bill for some supplies from a box to which Bill had the keys, but he refused to get them, saying that he must have an order from his own *Bwana*. It was cheek, and he had to be punished; the punishment was not severe, but coming from me it went hard with him and I had to give him a fatherly talk to prevent his running away. Whenever we reached a *boma*, or Nairobi, we expected Bill to have a grouch. His irresistible impulse to spend money and the desire to keep it, too, upset him, and going to Nairobi usually meant that he would be paid in full and discharged; but the next day he would turn up and continue to do his work with a long face until he would manage to screw up courage to ask if the *Bwana* would take him on the next trip, and then he would be all grins and the troubles were over.

Sometimes in hunting dangerous game I would take him along as extra gun-bearer and usually on these occasions his marvellous keenness of eye and ability to track would result in the regular gun-bearers being relegated to the rear. One time while hunting elephants in Uganda I let him go with me. We had finished inspecting a small herd, decided there was nothing in it that I wanted, and were going back to take up the trail of another lot in a section where the country was all trodden down by the going and coming of numerous herds. As we went along Bill detected the spoor of two big bulls and I

told him to follow it, not thinking for a moment that he would be able to hold it in the maze of herd tracks. On our last visit to town he had invested in a stiff brim straw hat and a cane, and he looked like anything but an elephant tracker as he walked jauntily along with his straw hat on the back of his head and swinging his cane like a dandy. For five hours he followed that trail with the utmost nonchalance, in places where it would have given the professional tracker the greatest trouble and where nine out of ten would have lost it. At last, as it led us through a dense bush, Bill suddenly stopped and held up his cane as a signal for caution; as I drew up to him there were two old bulls not twenty feet from us. When one of them was dead and the other gone I felt much more comfortable than when I first realized the situation into which we had blundered.

But the time that Bill earned our everlasting gratitude and immunity from punishment for present misdeeds was when I was smashed up by the elephant on Mt. Kenia. He was with Mrs. Akeley at the base camp when the news reached her at dusk, and it was past midnight when she was ready to come to me through that awful twenty miles of forest and jungle in the blackness of a drenching rain. While headman and *askaris* were helpless, stupidly sharing the fear and dread of the forest at night which paralyzed the porters and guides, it was Bill with a big stick who put them in motion and literally drove them ahead of Mrs. Akeley to me. And then it was he who directed the cutting of the road out of the forest for the pas-

sage of my stretcher, enlisting the services of a chief with his people to cut a road in from the *shambas* to meet our porters who were working outward.

One day when I was convalescing, Bill called on a porter to perform some service about my tent. The porter refused to come. Bill went out to "interview" him. The porter was twice as large as Bill—there was a little scuffle, and Bill came right back and did the work himself. Then he went over to the doctor's tent and conducted him out to where he had left the porter. It took the doctor a half hour to bring the porter to. Then the other porters came up in a body and said that Bill must go or they would all go. I told them that the first of their number who complained of Bill or refused to do his bidding would get "twenty-five." The average black boy would have taken advantage of the situation created by these victories—not so with Bill. After that, whenever he had occasion to pass an order to a porter, he always did it through the headman.

Perhaps I should explain at this point just what the normal personnel of a *safari* in British East Africa is. First, there is the headman, who is supposed to be in charge of the whole show, excepting the gun-bearers and tent boys, who are the personal servants and under the immediate direction of their masters. The *askaris* are soldiers who are armed and whose duties consist of the guarding of the camp at night and looking after the porters on the march. There is one *askari* to from ten to twenty porters. The cook and his assistant or assistants, the number of whom is

determined by the size of the party, are important members of the *safari*. Then there are tent boys, one to each member of the party, whose duty is to look after the tents and clothing, and to serve their masters or mistresses at table. The *syces* are pony boys, whose duties are to look after the horses and equipment. In addition to those already named come the rank and file of porters whose duties are manifold, carrying loads on the march, gathering wood under the direction of the *askaris* and the cook, bringing in game, beating for lions, setting up the tents under the direction of the tent boys, and so forth.

I do not know of any case where Bill's character was better demonstrated than at the time when I was convalescent after the elephant smashed me up. I was able to walk about, but had to have someone carry a chair along so that I could sit down to rest. A little distance away from camp, at the edge of the Kenia forest, there was a great swampy place surrounded on three sides by a high ridge and on the fourth side by the forest. One day the natives came in and reported that an old bull elephant had come out into this swampy place, and they said that he would probably stay in there for a week or ten days. These old lone bulls come out into one of these feeding grounds, where they are not likely to be disturbed by their companions, and for a time simply loaf around and feed and then go away again. We started out one morning to look this one up, and went to the edge of the forest, where the boys showed us his trail. We followed it, and found that it was joined by the

fresh trail of a second elephant. I started to walk down the trail, but found that I was not in physical condition to go on, so I sent the boys up and around the ridge of this crater-like depression, instructing them to throw stones into the bush as they went along. They had not gone far when one of the elephants was beaten out and started to go across the bottom of the crater, over open ground. He was probably three hundred yards away from me, and as he approached the forest on the other side it occurred to me that I might get him rattled by shooting into the trees ahead of him. So I shot—the bullets crashed through the trees in front and frightened him, and he wheeled around and started back. I had hoped that he would come my way, but he did not. In the intense excitement I shot at him three or four times. A little puff of dust from his dry hide told me the story of my aim, and while one or two of the bullets apparently struck in the right place, it was evident that there was not sufficient penetration to get results.

The whole thing was very foolish, but since I had wounded him it was absolutely essential that I finish the job. The elephant turned again and went on across to the opposite side, and now I had to get on his trail and follow him. From a hundred yards away he got our wind momentarily, and threatened to charge. Another shot turned him, and he disappeared into the bush. An hour later I had a good view of him at about seventy-five yards and under conditions where I normally could have made an ap-

proach to within a distance from which I might have dropped him in his tracks. But at this point I was so exhausted that I took a final shot at him from where I stood, seventy-five yards away. He went down, but got to his feet again and went into the bush. The boys helped me back into camp. I felt perfectly certain that we would find him dead in the morning. The whole thing had been stupid and unsportsmanlike.

The next morning, with a few of the boys, I went back and took up his trail; but much to my disappointment and surprise I found that he and his companion had kept right on into the forest and were apparently going strong. I knew that he was mortally wounded, and it was necessary that he should be followed and finished off. It was too big a job for me in my condition, so it was up to Bill. I gave Bill one of my gun-bearers and each of them a heavy .470 cordite rifle, with instructions to stick to the trail until they found the elephant. They were not to shoot except in emergency. When the elephant was found, one of them was to remain with it while the other came back to report.

I went back to camp and waited. The boys had no supply of food with them and I had no idea but that they would be back in camp before night, but it was not until midnight of the second day that Bill came to my tent, awakened me, and told his story. They had followed the elephant without ever coming up with him except that at one time they heard him ahead of them; and they had finally decided it was best to come back to get food and instructions. Bill

was just about exhausted; and the gun-bearer, a big husky fellow, had fallen by the wayside. Bill had left him some five miles back in the forest on the trail. Evidently Bill considered my elephant guns of more importance than one black gun boy, as, for fear that something would happen to the rifles, he had lugged both of the heavy guns into camp, leaving the boy with nothing but his knife with which to protect himself. I felt, however, that there was little danger to the gun boy except from exposure, and against that he no doubt had built a fire. I could think of nothing to do until daylight. A half hour later some commotion in camp caused me to send for the headman, but Bill came instead. I asked him what was doing, and he said that he had had trouble in getting some of the boys to go with him. "Go where?" I asked. He replied that he was going back to the gun boy with food. Then I came to. I sent for the headman and *askaris*, told Bill to describe to them the gun boy's location, and told them they were to go to his relief, and Bill that he was to go to bed. This he finally did, after using up what remaining strength he had in protest. The elephant was not located.

About a year and a half later, after we had returned to the States, Bill went back into his home country and began to search for the wounded elephant. He must have done some very clever detective work, for he finally located the native who had found the dead elephant. This native had secured the tusks, and had sold one of them to an Indian trader; but the

second was still in his possession. According to the laws of the land he should have turned in the two tusks to the government officials, who would have paid him a nominal price for the ivory, and I, having filed a claim with the Government, would have come into possession of the tusks; but the native had evidently thought that he could get more out of them by selling them one at a time, and had taken a chance. But he made a mistake in leaving Bill out of his calculations. Bill followed up the case with the final result that the remaining tusk was taken and sent to me, and the Government confiscated a certain number of cattle belonging to the native as penalty for the one he had sold. Thus, to both Bill and me, the final results from that particular elephant hunt were satisfactory.

One time in Uganda I was using Bill as a gun-bearer in preference to the regular gun-bearers, because I had by that time realized that Bill was the best tracker as well as the most keen and alert hunter, black or white, that I had ever known. We had followed a small band of elephants into some dense forest, and for a long time had been crouching beneath some undergrowth where we could get an occasional glimpse of the elephants' legs, but nothing more. They had been quietly feeding during this time, but at last they moved away and crossed a trail down which we had a vista of a hundred yards or so. When we thought the last one had passed, we went down this trail quickly and quietly to the point where they had crossed, and there we stopped, listening

intently in an attempt to locate them. At first I thought they had gone out of hearing, when I suddenly discovered the rear elevation of a bull not more than twenty feet from us. He was motionless. We had come in so quietly that he had not heard us, and then I did not dare move for fear of attracting his attention. I craned my neck in an effort to get a glimpse of his tusks, and in doing this I became conscious of a cow standing beside the bull and looking straight at us. Bill was about five feet back and to one side of me. I stood motionless, without swinging my gun in the cow's direction, but waited for her to make the move. I doubt whether she saw us distinctly. The bull began to move away and the cow, in turning to follow, moved a pace more or less in my direction. I was perfectly certain that she was going to follow the bull, and to Bill there was no indication that I had seen her. Bill thought she was coming at me, raised his gun, and fired point blank into the cow's face. The elephants bolted. I wheeled and slapped Bill, because he had broken one of the rules of the game, which is that a black boy must never shoot without orders unless his master is down and at the mercy of a beast. Of course it did not take long for me to come to a realization that Bill's shooting was done in perfectly good faith because he thought that I had not seen the cow, and he also thought that she was coming straight at me. Bill's heart was broken and my apologies were forthcoming and were as humble as the dignity of a white man would permit.

The next day Bill came to me and said that he wanted to quit and go back to Nairobi. I satisfied myself that it was not the incident of the day before that had brought him to this frame of mind, but he admitted that he was scared and tired. In other words, the pace had been too hot for him. It was a case of nerves, and he was worn out. I persuaded him to stay, telling him that he need not go with me on elephant trails for a week. I would take the other boys and he could just stay in camp to loaf and rest. But the next morning, when I was preparing to go, Bill was on the job and would not be left behind. He told Mrs. Akeley that he was not afraid for himself but was afraid for his *Bwana*. So we continued our elephant work at an easier pace than before.

The Wakikuyus (to give them their full name) are an agricultural people, and one does not normally look among them for gun-bearers or hunters. They are a comparatively mild and gentle race, and thus Bill was quite an exceptional individual. Bill was always on the job, and if it were not for the two occasions of which I have told, I would be able to say that he is one human being whom I have never seen tired.

Bill never was and never will be completely tamed. His loyalty to the master in whom he believes and for whom he has an affection is unbounded, and I firmly believe that Bill would go into certain death for such a master. He has an independence that frequently gets him into trouble. He does not like to take orders from any one of his own colour. The Somalis and the Swahilis, associated with Bill, were

constantly putting up jobs to get him in bad with the master because, to these two peoples, the Wakikuyus are a very inferior race. There is no doubt in my mind that Bill's disgrace with the Roosevelt Expedition was due entirely to the connivance of the Swahilis and the Somalis.

When we had finished with our lion-spearing expedition on the Uasin Gishu Plateau, numerous things had been stolen, and the Somalis insisted that Bill was the guilty party. A white man whom I had employed to take charge of the Nandi spearmen was not fond of Bill, and one day he ordered him to open his bag for inspection. Bill refused, and when the case was brought to me and I investigated it, Bill was so rebellious that we found it necessary to take him in hand for mild punishment. He ran from camp and I sent an *askari* after him. The *askari* overtook him, but he did not bring him back, because Bill had a long knife and he was prepared to use it to a finish. I realized that I would have to see it through, although my sympathies were all with Bill. We were near a government *boma*, and I turned my case over to the officials. Bill was arrested, put in jail, and we went on without him.

Some weeks later we were making the ascent of Mt. Kenia, back in Bill's old country, where Bill's services had been almost invaluable; and I continually felt the need and frequently an actual longing for Bill. We were up about ten thousand feet on Kenia, following an elephant trail. We came to an elephant pit in which some animal had been trapped and made

its escape. I was busy reading the story, which was very simple. A giant hog had got into the pit and had worked with his tusks and feet at the sides of his prison until he had raised the bottom to a point which enabled him to scramble out and make his escape. I had been longing for Bill all morning because of certain troubles we were having with our boys. Just as we were about to leave the pit to continue our march up the mountain side I heard a voice behind me:

"*Jambo, Bwana.*" ["Good morning, Master."]

I recognized Bill's voice. I turned and saw the most disreputable Bill that I had ever seen. His clothing was worn to shreds, his shoes were practically all gone, and the only thing about him that was perfectly all right was his grin. I wanted to hug him. I never knew just what happened at the *boma* except that after two weeks Bill got out, took up our trail, and followed us in all of our meanderings, and finally came up with us at the elephant pit in the gloomy bamboo forest. He had probably travelled a couple of hundred miles in overtaking us.

Bill's training as a tent boy, as I have said, was under Alli. Alli was a Swahili, and he was not only one of the most efficient tent boys and all-around men that we ever had in Africa, but he was especially valuable on *safari* because of his ability to entertain and amuse his fellow men around the campfire at night. Alli's sense of the dramatic was extremely keen. Night after night he would stand in the centre of a circle of admirers, telling them stories.

We would often sit and watch him, and we had no difficulty in following his story, though we understood, at that time, no Swahili at all. He might perhaps be describing to his fellows some white man. He would describe his dress in detail—his tie, his shirt, his cuffs —and we were usually able to recognize the individual from the pantomime of his description. These stories were sometimes made up from the day's experience. For instance, it might be that during the day I had had some interesting experience or adventure the story of which Alli had gathered from the gun boys on their return, and when the work was finished in the evening Alli would give it to his audience in full detail—probably with some additions that furnished intense interest—often eliciting loud applause.

One time we had been on an elephant trail a day and a half. I lay beneath a tree, "all in" with spirillum fever, and felt that I could go no farther that day; so I ordered Bill to make camp. I was awakened from a doze by Bill, and when I asked him if my tent was ready he replied that it was not but that the hammock was. He had improvised a hammock which he ordered me to get into. He had doubled up the loads of the few porters so that four were released to carry me. Bill made the porters trot the ten miles to camp. It was nearly a month before Bill and I had recovered sufficiently to take up the elephant trails again.

Another time I was down with black-water fever in the Nairobi hospital. I had been booked to "go

over the Divide" the night before, but somehow missed connections. I opened my eyes with my face to a window overlooking the porch, and there, looking over the rail, was Bill, like a faithful dog. It seemed to me that he stood there for hours with tears in his eyes staring at his master. A few days later he was allowed to come into my room. He approached the foot of the bed with a low "*Jambo, Bwana.*"

I said, "It is all right, Bill; I'll soon be well."

With a great gulping sob, he burst into tears and bolted from the room.

At an African Big Game Dinner in New York almost ten years after I left Bill, one of my friends who had just returned from British East Africa came to me and announced that he knew all about me now: that he had had Bill in his *safari*, and Bill never lost an opportunity to tell him stories about *Bwana Akeley*. So I know that Bill is still loyal, and there is no one in all Africa whom I am more keen to see. I missed him constantly on my trip into the gorilla country, but because I entered Africa from the south when I headed for Kivu, I was forced to make up my *safari* without him.

CHAPTER VIII

SAFARI HUNTERS

IN 1905 Nairobi was a town of tin houses, many black people, a few Hindus, and fewer white men. Before my departure for the Athi Plains, where I planned to begin my collections, I wished to find a place in Nairobi where I might store material as I sent it in from time to time from the field. Around and around I wandered without finding any one who was able to offer a helpful suggestion. Then one day, as I was passing the open door of an unpromising galvanized iron building, I heard the encouraging clatter of a typewriter and lost no time in investigating. At the rear of a bare room about thirty feet wide and forty feet long was a door on the other side of which someone was plying the typewriter furiously. Finally there came forth from behind that closed door a blue-eyed, red-haired chap, apparently extraordinarily busy and much annoyed at being interrupted. However, his annoyance vanished when I told him what I was looking for and he suggested that I use a third of the front part of his building at a rental of five rupees—about a dollar and a half—per month. This arrangement was eminently satisfactory to me and we closed the bargain at once.

The red-haired man was Leslie J. Tarlton. No description of British East Africa is complete without some reference to Tarlton, the Boer War veteran now known to hunters the world over because of the flourishing business he has built up in Nairobi—a part of which is equipping *safari* hunters with everything from food to niggers.

Tarlton and his partner, Newland, were Australians who had served in the Boer War. At its close they set out to make their fortunes somewhere in Africa. Coming to Nairobi with none too much of this world's goods but plenty of ambition and enthusiasm, they were casting about for an objective when on that morning in 1905 I stumbled upon Tarlton's iron house. The *safari* business into which they fell that day helped to make them prosperous men until the opening of the World War in 1914 put an end to African hunting for a time.

Tarlton afterward confessed to me that the typewriter that first attracted my attention would not write at all. Its only use was to make a noise when a prospective client came in sight. It was perhaps the first propounder in Nairobi of the modern business principle that nothing succeeds like success and it propounded no less diligently because Tarlton had not yet discovered what his post-war profession was to be. Two or three weeks after our first meeting, when I came in from the plains, my *safari* laden with collections to be packed in brine, Tarlton was much on the job, observing the process and assisting whenever he saw an opportunity. Finally he asked why

he could not learn to do such work for me. His proposal was that he act as my agent, sending food and other supplies to us in the field as they were required and thus obviating the necessity of my coming in whenever a consignment of skins was made. As time is precious in the field and one does not often happen upon a helper of such ingenuity and diligence, we soon came to terms. Newland, Tarlton, and Company had acquired their first *safari* client. Later on we provided poison tanks and the other paraphernalia necessary in caring for trophies before they can be shipped. Since that time, Newland and Tarlton have prepared skins and packed and shipped them for innumerable *safaris*.

When in 1911 black-water fever so nearly got me, Tarlton was also thought to be dying in the Nairobi hospital, but he, too, surprised his friends by his unwillingness to conform to their expectations, and, while we were both convalescing, invited me to his house to stay. Those weeks in Nairobi were a great time for reminiscence. Tarlton told me a story every morning before breakfast as he whistled and chirped about his dressing. And he always ended with the assertion that some day he was going to write a book on that particular subject. One morning he recited an anecdote about Theodore Roosevelt, adding, "Some day I am going to write a book on 'Ex-Presidents I Have Known'."

But the story I recall with the keenest relish recounts the adventures of three Boer War veterans. They had reached the bottom of their luck after the

war, and making a pot, went into the Congo to poach elephants. They had good shooting at first, then no luck at all. Their supplies were nearly exhausted. But they took heart one evening when they came upon elephant signs and carefully laid their plans for the next day's hunt. A last pot of jam remained in their commissariat, and a last pot of jam is treasured by a man in that country as one saves a last bottle of champagne. The hunter must have fruit, and since no wild fruit grows there, in the old days his supplies included large quantities of preserved fruit and marmalade. The three adventurers had saved that last pot of jam to be used to celebrate and they agreed that the time for celebration had come provided they brought home ivory on the morrow. Their plan was that each man should take a different direction. On his return that night the first hunter's trail crossed that of one of his companions. Both had their ivory and they went into camp together ravenously hungry, their appetites whetted by anticipation, to find that the third fellow had stayed in camp all day and had eaten the jam alone and unabetted. His companions saw red. The normal thing in a frontier country when a man fails to play his part is to kill him. That was their intention, but they made up their minds not to be rash about it. They decided to take the man into the woods some morning and come back alone. But they thought better—or worse—of it the next day.

The story ends in Tarlton's own words:

"Well, ladies and gentlemen, my next book will

be entitled 'Murdered from Marmalade,' or 'The Jam that Jerked him to Jesus'."

Tarlton was the best game shot I have ever known. We had gone out together on one occasion to get meat for dinner when we sighted a Thompson's gazelle at a distance of 225 yards.

"Let me try my new Rigby on Tommie," Tarlton said, as he drew a bead on the centre of the gazelle's chest. When we reached the antelope and found the bullet one inch below where he expected it, he remarked that he had suspected that his rifle was not accurately sighted. This was no conceit on his part. He expected to place his bullet exactly where he wished and if his gun was accurately sighted he rarely missed.

Tarlton's first lion was shot about this time. The lion had charged his friend and with his front paws on the man's shoulder, and his mouth open, was reaching for the man's head when Tarlton pulled the trigger fifty yards away. The friend escaped without a scratch.

In the conduct of his business in Nairobi, Tarlton must have come in contact with all sorts of men, for there are sportsmen and so-called sportsmen of all shades and degrees. There is the man who goes over keen to get a representative head of every species of game animal. No one can take exception to him while there is plenty of game left. On the other hand, there is the man who hunts for record heads and with him I have little patience. One man came into camp in Somaliland who, although he never shot

unless he believed his prey to be unusual, had killed seventy-five aoul or Soemmerring's gazelle before he got the record. Another class of sportsmen is made up of men who seem to think that the end to be attained is to kill all the law will allow them. I have seen a great many of this type. Having paid for a license which allows them to kill a given number of animals of each species, they are never content until they have killed the full number regardless of their needs, the size of the horns, or anything else. In the same class with the man who kills to his limit is the man who has made careful preparation for a hunt in Africa and who goes there determined to kill every available species within three months. One I know told his agents that he would pay them for the full time if they would so arrange it that he could get his game in three weeks. His idea is to kill and get out of Africa. He has none of that appreciation of Africa's charm and of that real interest in its animals which create in the true sportsman the desire to remain as long as possible.

There are many professional hunters in British East Africa, but perhaps R. J. Cuninghame is the most notable of the type. I met him first in 1906. I wanted elephants, and everyone at Nairobi agreed that he was the best elephant hunter. So I went to him and asked him to teach me to hunt elephants. We had some trouble in arranging the terms because he did not want any remuneration for helping an expedition bent on scientific collection. I couldn't accept his time gratis but have always appreciated

this offer. Coming from a Scotchman it was quite unexpected, but it was typical of Cuninghame's generosity and indicative of his interest in scientific work.

He taught me as much as one man can learn from another about the game of hunting elephants. There are some things which one can learn only through experience, and in elephant hunting most of the essentials must be learned in that way. It is easy and natural to assume that these huge beasts will always be too obvious for the unexpected to happen. But in spite of their size they are not always easy to see, for in their own country elephants are the colour of the shadows and on occasion quite as silent. In a forest or rock environment one may almost literally run on to an elephant before being aware of its presence. The fact that Cuninghame spent so many years hunting the great game of Africa without ever being mauled is evidence of his skill.

We went together to the Aberdare and killed one elephant—the single tusker now in the group in the Field Museum in Chicago. Then we went down to the government station at Fort Hall and got permission to go up on Mt. Kenia for further elephant shooting. We spent six weeks on the slopes of the mountain, I as an amateur under Cuninghame's tutelage. And he was a real elephant hunter. He had killed many elephants, and his long experience had given him a great deal of that knowledge about elephants which would enable him to kill them without himself being killed. On the other hand, Cun-

inghame hunted elephants for ivory, and when a man approaches a herd looking for ivory, he is not likely to see much excepting tusks. It is natural, therefore, that from the ivory hunters we learn comparatively little of the more intimate things that we should like to know about the every-day life of the elephant. The world has no record of the knowledge of wild life that their experience should have given the ivory hunters.

It is for this reason that the camera hunters appeal to me as being so much more useful than the gun hunters. They have their pictures to show—still pictures and moving pictures—and when their game is over the animals are still alive to play another day. Moreover, according to any true conception of sport —the use of skill, daring, and endurance in overcoming difficulties—camera hunting takes twice the man that gun hunting takes. It is fortunate for the animals that camera hunting is becoming popular.

The first notable camera hunter in Africa was Edward North Buxton, whose book, "Two African Trips," was published in 1902. In the preface to this book Buxton writes that "it would better be described as a picture-book than a volume of travels." This book paved the way for another in 1905, "With Flashlight and Rifle," by C. G. Schillings. Considering the state of photography at that time, Schillings' book is a truly remarkable record of wild animal life. In 1910, A. Radclyffe Dugmore brought out his book, "Camera Adventures in the African Wilds." In it are several pictures of lions taken by flashlight at night

from a blind that are photographically as good as are ever likely to be taken.

Then came the first of the moving-picture hunters. The first success was the film called "The Water Hole" taken by Mr. Lydford, who was temporarily the photographer of Paul Rainey's expedition. Although it is not photographically as good as some of the later ones, it was a remarkable achievement, as all who saw it will testify, especially when they realize that this was Mr. Lydford's first experience in making motion pictures and that his equipment was not as good as equipment is now. The film had a deservedly popular run. Like all such films it was arranged for public exhibition by piecing together parts taken on different occasions, so that the audience gets in one crowded hour the fruits of weeks and months of painstaking effort.

The next successful moving picture that I know of was taken on the expedition of Lady Grace McKenzie. It has in it the very remarkable piece of film showing a charging lion. The lion almost got the operator and ended the picture but fortunately both escaped. This reel has never been extensively shown.

After this came a film made by James Barnes and Cherry Kerton which was shown with a lecture and not, as was Rainey's, by itself. That was nearly the whole roll call until 1922 when two men came back with films. The first to reach New York was a film made by H. A. Snow. It was shown at the Lyric Theatre and had a great success for which I am person-

ally sorry. I look upon it with more disapproval than I can well state, for I think that many of the titles on the pictures are misleading and that some of the pictures fall into the same category. All naturalists welcome the spread of animal lore by motion pictures so that a knowledge of true natural history may become more general, and there is no better way to disseminate such information. But if in order to make a film a more hair-raising and popular picture, the moving-picture producer puts misleading titles on the pictures and resorts to "fake" photography, the harm they can do is just as great as the good they would otherwise effect.

While most of us who are interested in true nature photography were feeling somewhat blue about Mr. Snow's pictures, Martin Johnson came back to New York. He came in to see me and I asked him what he was going to do about his titles. He was prompt and positive. He was quite willing to submit them all to the American Museum of Natural History. That was a big decision, for the Museum would not agree to the kind of titles which it was likely the moving-picture business might desire. This might militate heavily against his chance of selling the picture, and in Johnson's case selling the picture was a necessity, for all he had in the world and more besides was invested in it. But he stuck to his decision when the pressure came and his film goes forth, the first ever endorsed by the American Museum of Natural History, a credit to him and to the company distributing it. I feel that this is a great step. With this prec-

edent I believe we have begun a new era in disseminating natural history through motion pictures—a step in which we can count on the assistance of Mr. Will H. Hays, the president of the Motion Picture Producers and Distributors of America.

But I must return to the gun hunters, for I have not mentioned the truest sportsman of them all—Theodore Roosevelt.

I first met Theodore Roosevelt on my return from Africa in 1906. Previously, on his visit to Chicago as Vice-President, soon after I had finished the deer groups for the Field Museum of Natural History, he called at the Museum and was so interested in the groups that he asked to see me, but unfortunately I was not there. From that time on he was interested in my endeavours and, learning that I was on my way out of Africa, had asked Congressman Mann to bring me to Washington. Congressman Mann's invitation was waiting for me when I reached New York.

At a dinner at the White House during that visit the Roosevelt African expedition was inaugurated. Among the other guests was a gentleman from Alaska who had been describing the hunting in that region and, as we were entering the dining room, the President remarked:

"As soon as I am through with this job, I am going to Alaska for a good hunt."

I shall never forget that dinner at the White House. I sat through course after course and did not eat a bite, for the President kept me busy telling stories of Africa. There was no time to exhaust my supply,

but I believe I said quite enough, for as we were leaving the dining room, the President turned to me and said:

"As soon as I am through with this job, I am going to Africa."

"But," interposed the hunter from the north, "what is to become of Alaska?"

"Alaska will have to wait," Roosevelt replied with finality. Plans for the Roosevelt African expedition went forward at once and I had something to do with their arrangement.

At this dinner at the White House I retold to the President the story of the sixteen lions coming out of the cave on MacMillan's estate. The President, who had been very frank in his comments about all things, was having difficulties with the Senate at the time. When I had finished the story, he addressed Congressman Mann who sat beside him at the table,

"Congressman," he said, "I wish I had those sixteen lions to turn loose in the Senate."

Congressman Mann stammered and stumbled a bit, but finally drew himself together to reply.

"B—but, Mr. President, aren't—aren't you afraid the lions might make a mistake?"

"Not if they stayed long enough," was Roosevelt's rejoinder.

So he really invented the idea which they turned on him later. When his administration was over and he finally started for Africa, the cry of the Senate crowd was, "America expects every lion to do his duty." A cartoon of the day that I particularly

remember showed a contented lion sitting up on his haunches with drawn and bulging stomach. Beneath, the caption read, "He was a good President."

I was planning an expedition to collect materials for an elephant group in behalf of the American Museum of Natural History about the time that Roosevelt was arranging for his African hunt, and it was a fancy of mine that he should shoot at least one of the elephants for my group. Upon my request that he should do so, we planned to meet in Africa, but as I was delayed in getting over, it was only by chance that his *safari* and mine met on the Uasin Gishu Plateau.

One day while on the march I sighted a *safari*. I was aware that the Roosevelt outfit had gone into that region, but I assumed that he had already left there for Uganda. Nevertheless, while we made camp on the banks of the river, I sent a runner to see if it could be the Roosevelt *safari*. My runner met a runner from the other outfit and returned with a message from Roosevelt himself which said that if we were Akeley's party he would go into camp at a near-by swamp. I mounted my pony and went to meet him as he approached on horseback accompanied by his son, Kermit, Edmund Heller, and their guide, Tarlton. We all went back to our camp for luncheon, where I gave Roosevelt a bottle of very choice brandy, a present from Mr. Oscar Strauss. Mr. Strauss had been one of our steamer companions across the Atlantic and, learning that I was likely to meet Roosevelt, he asked me to take this choice

brandy to him in the jungles. Roosevelt accepted it with much interest in the accompanying message but apparently with mighty little interest in the brandy. He passed the bottle on to Cuninghame and I felt certain it would eventually meet with just appreciation.

We went over to Roosevelt's camp for the night, thoroughly pleased that the hunt we had looked forward to together, but had been forced to abandon, was to take place after all. We intended to get an early start the next morning, for Roosevelt had seen one herd of elephants that day. We started with Tarlton leading. Suddenly he slipped off his horse and directed that we swing down side to get off wind. In a clearing just ahead of us were our elephants, a band of eight cows and calves, enjoying their midday siesta and milling about under the trees. We stood hidden by a great ant-hill while I picked out a cow I thought would do for my group and pointed her out to Roosevelt. Of course, I assumed that he would shoot her from behind the ant-hill, well out of sight and protected. Instead he went around the hill and started straight toward the elephants, Kermit and I following one on either side and in back of him. I had an impulse to climb on Roosevelt's shoulder and whisper that I wanted him to shoot her, not to take her alive. But Roosevelt's theory of meeting trouble was to meet it halfway and he got just about halfway when the old cow started across the open space. Then the other seven headed toward us. Roosevelt shot. The elephant I had selected went part way down and got up again. On they came.

He shot again and got her. However, there were three dead elephants instead of one when we stopped them, for Kermit and I had to shoot, too, to head off the others. The rule in elephant hunting is to get as close as you can before shooting, and in whatever Roosevelt was doing he came out in the open and went straight to the point.

Kermit's baby elephant, now mounted in the group, was taken that day, also. After we had turned them, I saw a calf I wanted, asked Kermit to shoot him, and he did so.

While Tarlton and Kermit returned for the camp equipment and the supplies required in caring for the elephants, Colonel Roosevelt and I sat together resting in the shade of an acacia. We were alone in the heart of Africa and he talked to me of his wife and children at home. He had not seen any one from the United States, excepting the members of his own party, for a good many months, while I was fresh from the States, fresh from Oyster Bay. In those three hours I got a new vision and a new view of Theodore Roosevelt. It was then that I learned to love him. It was then that I realized that I could follow him anywhere; even if I doubted, I would follow him because I knew his sincerity, his integrity, and the bigness of the man. Since his death those qualities that I caught a glimpse of in Africa under the acacia tree —those qualities that made Theodore Roosevelt what he was—I have seen more fully and completely as they are reflected in his children and his children's children.

Our remaining days together were comparatively uneventful. A grass fire, fortunately not one of the most persistent, came down upon our camp that night and all hands fell to and fought it. Lions roared about our camp all night, too. At daybreak the Colonel and I went out in our pyjamas, hoping to find them. We saw no lions, but on our return, as we approached the carcass of one of our elephants, a hyena stuck his head up on the other side. The Colonel fired but the shot was unnecessary. The hyena was trapped. In his greediness, he had rammed his head through a wall of muscle in the elephant's stomach and could not get it out. The hair was worn thin on his neck by his efforts to escape, but he was literally tied up in the thing he loved best.

A day or two later Roosevelt went on to Uganda and down the Nile.

CHAPTER IX

INVENTIONS AND WARFARE

SOON after my return from my 1905 trip to Africa I got my attention turned away from taxidermy for a little while in a curious fashion. The Field Museum was still in the old Columbian Exposition Building in which it had started. The outside of this stucco building kept peeling so that it had a very disreputable appearance. The Park Department protested to the museum authorities. I happened to be in the museum one day when one of the officers had this on his mind and he said:

"Akeley, how are we going to get the outside of this building respectable at a reasonable cost?"

I got to thinking about it. In the many experiments of one kind and another that I had tried in working out methods for manikin making I had among other things used a compressed air spray. It occurred to me that it would be possible to make an apparatus on this principle that would spray a very liquid concrete on to the side of a building. I set to work and rigged up a somewhat crude apparatus and set it up outside the museum building. It was not a finished piece of mechanism and it had the further disadvantage of having its compressed air come quite a long way in a hose. Nevertheless it worked, and

the old building was repaired with this apparatus. The Field Museum never used the cement gun any more but some friends came along and offered to put money enough behind the idea to perfect, manufacture, and sell it. As with all such things the first money went and then a second like amount, but in the end the cement gun succeeded, and during the war it, among other things, was used to make the concrete ships. This occupied most of my time between 1907 and 1909. In fact, I drove the first motorized cement gun down to the house of its chief financial backer on Long Island in 1909, and went back to New York to go again to Africa.

As I am no longer financially interested in the cement gun, I may say with pride that there are now approximately 1,250 machines in use, not only in the United States, but also in the principal foreign countries. In addition to the use for which it was originally designed, that of restoring masonry and concrete structures, many other important purposes are now served by this mechanism. In coal mines it is being used to keep slate roofs from falling and to fireproof the timbers. Irrigation ditches and reservoirs are being lined and dams are being faced and protected against the destructive action of water and frost by this method. In tunnel construction, a lining put in with the cement gun prevents falls and insures an absolute sealing. It protects steel, protects piles against teredo and fire, protects structures against acid, restores boiler settings and preserves them from further action of the heat, rebuilds

baffle walls, makes economical floor and roof slabs, and is being used extensively in putting up walls of buildings that are permanent and fireproof.

My next trip to Africa in 1909 also served to develop another activity besides taxidermy. One of the principal objects of this trip was to get moving pictures of the Nandi spearing lions. However, I found that you can't stage a native lion hunt with any certainty, for neither the lion nor the native, once the action begins, pays any attention to the movie director. In order to have even a fair chance of following the action with a camera you need one that you can aim up, down, or in any direction with about the same ease that you can point a pistol. There were no movie cameras like this, and after failing to get pictures of several lions I determined not to go to Africa again until I had one.

When I got home I set to work on the problem and after much experimentation completed a working model that bore no likeness to the conventional motion-picture apparatus. To one familiar with the old types of camera the Akeley resembled a machine gun quite as much as it resembled a camera. During the war I used to say that the boys who operated it would be well protected and *Photoplay* in January, 1919, related a story of the American advance in France which bore out my opinion. While setting up the machine to make some shots in a still-burning and newly occupied village, a young lieutenant was confronted suddenly by seven Germans. Mistaking his formidable film apparatus for a new type of Yan-

kee machine gun, they threw up their hands and surrendered. The story is probably all the better because its truth is doubtful.

Since its perfection the Akeley camera has been carried into many of the far-away corners of the globe by museum expeditions and explorers. The Katmai Expedition of the National Geographic Society, the Mulford Biological Expedition to the Amazon Basin, the Third Asiatic Expedition of the American Museum of Natural History, the MacMillan Arctic Association, and the British Guiana Tropical Research Station at Kartabo under the direction of William Beebe, are some of those which have been equipped with Akeleys. In taking "Nanook of the North," the picture made for popular distribution by the Revillon Frères Arctic Expedition, Mr. Flaherty used two of my cameras. Martin Johnson, whose motion pictures of the South Sea Islands and of Africa have won him renown as a "camera hunter," is planning to include three in the equipment for his next African expedition. To a degree at least, the camera is accomplishing the purpose for which it was designed.

While I had little idea at first that this camera would fill any other needs than my own, as it has been perfected it has proved its practicability for general use. The fundamental difference between the Akeley motion-picture camera and the others is a panoramic device which enables one to swing it all about, much as one would swing a swivel gun, following the natural line of vision. Thus instead of having to manipulate two cranks with the left hand, one to tilt the camera

and the other to move it horizontally, the operator by means of a single control secures a steady movement which may be vertical, horizontal, or diagonal, and which enables him to keep a moving object always in the centre of the field. This flexibility especially adapts the camera not only for wild animal photography, but also for studio work, where an erratic follow-up is to be accomplished, and for news reel photography. It was this advantage, combined with another special qualification, the freer use of the telephoto lens—which brings a distant object into the foreground on the screen—which made possible a successful picture of the Man-o'-War race and the Dempsey-Carpentier prize fight. Anthropologists have found the telephoto lens useful in making motion pictures of natives of uncivilized countries without their knowledge. Because of the difficulty of securing the proper lighting in the woods, I had paid particular attention to the shutter so that as perfected the shutter admits thirty per cent. more light than the usual camera shutter. This characteristic also has commended the camera to general use. In out-of-door photography on a dark day as well as in the studio, where the lighting is one of the greatest items of expense, its advantage is obvious. Tom Mix and Douglas Fairbanks are both making extensive use of the camera now and a recent feature directed by Lawrence Trimble was made with it.

I was working on the camera, modelling a little and mounting the elephant group, when the war came on us. That meant a call for every man's energy and

brains. I was keen to do something, but there popped into my head an old unfortunate phrase that had long held lodgment there. "Nothing but a taxidermist." That was the sentiment of an editorial published in the *Youth's Companion*, a magazine which was almost my Bible, some fifty years ago. As a youngster I always had to combat the feeling that taxidermy was of no importance, both on my own part, when I was not completely lost in the joy of my work, and also on the part of those about me. But, inasmuch as it had been the advertisements of books on taxidermy in the *Companion* that had given me my first encouragement, I felt a particular resentment toward a magazine which would so betray its advertisers and its readers.

My conviction that museum exhibition is playing an important part in modern education has long since satisfied me that the work which I have chosen as mine is worth while, but all through my experiences at Ward's and in Milwaukee the doubt persisted. Was I not wasting my life on something that did not count? And, needless to say, my own doubt was deepened by the indifference of others.

With the war came the cessation of all normal life. An occupation popularly considered as unessential as mine ought to stop among the first. Anyway, I had to get into it. The only way to be happy was to get into it, but there was something rather ridiculous about the idea that an African naturalist and a "good-for-nothing taxidermist" could be of much service in wartime. At first it did not strike me—or any one

else, for that matter—that the principles I had worked out for taxidermy, for the cement gun, and for the camera might be applied to the mechanical devices of warfare.

But work began with an order from the Government for a lot of Akeley cameras. A call from the Signal Corps of the War Department asking me to bring them down took me to Washington shortly after war was declared, with the result that I accepted a contract whereby the entire output of the camera shop was turned over to the United States Government.

Soon after I became a Specialist on Mechanical Devices and Optical Equipment in the Division of Investigation, Research, and Development of the Engineer Corps. My chief was Major O. B. Zimmerman, who thirty years before had been my student in Milwaukee. He had wanted to become a taxidermist, but in those days taxidermy seemed a mighty poor game and I did my best to dissuade him from any such mad career. His wisdom in following my advice is proved by the fact that when the war broke out he was in Belgium as one of the leading engineers for the International Harvester Company. I had a desk in Major Zimmerman's office, but my actual work was done in the camera shop in New York, in the American Museum of Natural History, and in various laboratories. At least once each week I rode back and forth from Washington to New York. My duties were those of a consulting engineer, but they were much varied, for we had several things under way all the time. Wherever a problem, mechanical

or otherwise, arose, I went to look things over, and if I had any suggestions to make, I was assigned to that job. I spent several weeks at Brunswick, Georgia, where concrete ships were under construction and where my experiments with the cement gun served me in good stead. The fact that the concrete ships were not successful was not the fault of the concrete gun. It did its part.

After devoting a good deal of thought to searchlights and searchlight mirrors, I helped in lightening the apparatus materially and developed a device for searchlight control. This control, which involves the same rotary principle as my motion-picture camera, enables the operator standing at the end of an arm to direct the rays of the light toward any object in the sky and to keep it in view by following up its movements with the light. It is one of several devices developed at that time which have since been patented by the Government in my name.

Roosevelt once asked me why I declined to wear the major's uniform offered to me. "Well, Colonel Roosevelt," I replied unhesitatingly, for I had my good reason for so doing, "if I were wearing a uniform, I could not go to my colonel and tell him he was a damn fool."

Roosevelt laughed heartily.

"You are quite right," he replied. "Stick to it!"

As a civilian I went about wherever work was going on, talked freely with the workmen, heard them discuss their mechanical difficulties, and got from them their ideas for improvements. As a civilian I was

also free to carry those ideas wherever they could do the most good. If I had had to comply with the red tape of army officialdom, not only would my own work have been handicapped, but also the ideas and troubles of the private actually handling the machine might never have gone past his sergeant. When the armistice was signed, I was planning to go overseas to observe the difficulties that the men were having at the front, so that I narrowly escaped the khaki.

Whatever my services may or may not have contributed to the defeat of the Germans, at least I have escaped the accusation directed toward many a dollar-a-year man of being overpaid. The usual dollar-a-year man, though the dollar was never paid him, received his expenses, while my contract called for a salary of ten dollars per day without expense money. My original agreement was to include expenses, but some slip was made which always seemed too difficult to correct. This arrangement made my loss even greater than that of those men who received the fabulous amount prescribed by law, for needless to say my weekly stipend was inadequate to cover the one item of railway fare. Still one had to serve to be happy in those days, no matter what the cost. Inasmuch as the Akeley camera also lost heavily on war contracts, I have had the additional satisfaction of escaping governmental investigation on the score of excess profits. After it was all over, I ungrudgingly paid the normal tax on the money I had lost, and I would not swap those months with the Government for anything else in my experience.

Since the war, with the intermission of my trip to Africa for gorillas in 1921, I have stuck to my sculpture and taxidermy except for various lecture trips.

A man who is fortunate enough to have witnessed the beauties of the African forests and who has come to know the forest's inhabitants and their ways, is almost sure to be called upon to share his good fortune with others, and I have done a good deal of lecturing. My first lectures were to be given at Fullerton Hall in Chicago for the Field Museum shortly after my return from Africa in 1906. Fortunately, I had occasion to deliver a lecture in South Chicago a few days before my first museum lecture was scheduled. Otherwise, I probably would have dropped dead when I faced the Fullerton Hall audience. I think the thing that saved me from running then was the fact that I had a small audience behind a screen at the rear of the platform and knew that it blocked my escape.

I had tried to prepare a lecture, had realized that that was impossible, and had finally decided to show my audience the pictures and make whatever comments they brought to mind. Then, when I got on the platform without the vaguest idea of what I was going to say first, it suddenly occurred to me that I was no worse frightened than I had been one day on the banks of the Tana when I suddenly found myself, with nothing but a camera in my hand, charged by a rhinoceros. Apparently I had no escape except a thirty-foot drop into the crocodile-infested waters

of the Tana below. But the rhino stopped ten or fifteen feet from me, gazed at me stupidly, and settled down with the apparent intention of going to sleep. I took hope when the thought crossed my mind that this new terror might settle down with the same intention as the old rhino, leaving me to my own resources quite unharmed. So I told my audience the story of the rhino, the ice was broken, and I fear I nearly talked them to death before the lecture ended.

Since that time I have talked far and wide. I hope I have given some pleasure and entertainment to the good people who have listened. I hope also that I have created in the minds of my hearers a background that will help the art of taxidermy and its practitioners in the future. More especially I hope that I have contributed something to the study of natural history and that I have stimulated a decent attitude toward wild life.

CHAPTER X

A TAXIDERMIST AS A SCULPTOR

AFTER I had got over my first youthful enthusiasm about taxidermy and had seen how it was practiced, I recognized that, as it then was, it was not an art—that it was in fact little better than a trade. I had moments when I felt like abandoning the whole thing. I used to study sculpture, particularly animal sculpture, in relation to taxidermy. I remember that when I was twenty-eight years old I came to New York and spent hours at the Metropolitan Museum of Art with the itch in my hands and brain to become a sculptor. But one thing restrained me. I had enough common sense to know that while I might become a sculptor and even a fairly successful one I could never contribute to that art what I could contribute to taxidermy. I believed then that I could start taxidermy on the road from a trade to an art. So I turned away from sculpture. Nevertheless, the idea of being a sculptor kept running in my mind. And whenever it did, it depressed me. Finally, I gave up going near the Art Museum altogether.

But the discipline that I inflicted on myself I could not inflict on other people. I had to make little clay groups as studies and models for the animal groups

that I was mounting. Many people who saw these clay models would suggest that I have them cast in bronze. If I had not still had the fever of sculpturing in my blood, these remarks would not have stuck in my mind, but as it was they did. So this idea became familiar to me.

However, it was a good many years after it first became a regular inhabitant of my mind that I put it in practice, for along with it had grown up the notion that I should not merely turn models into bronzes but that I would wait until I had a real contribution. Real contributions did not seem abundant and so year after year went by with no bronzes made.

Then in 1912 a situation arose which I thought forced sculpture upon me. I had a dream of a great African Hall of forty groups of animals with all the ingenuity, all the technique, and all the art the country could boast of. By that time I had come to feel that taxidermy could be a great art. I felt that a beautifully modelled animal required at least as much knowledge, taste, skill, and technique as a bronze or stone animal. But I knew that this conception was not common. A taxidermist couldn't talk art. Especially he couldn't talk art convincingly to the kind of men who supported great museum ventures. It was a recognized thing to support art. Taxidermy had no such tradition. The only way out of the dilemma that I could see was to prove that whether or not taxidermy was an art at least a taxidermist could be an artist.

It was my desire to make an appeal to those men

who support art financially that stimulated my first work in bronze. I felt that we might expect the aid of these men in such undertakings as the African Hall if I could once get them to see the artistic possibilities of taxidermy. The American Museum of Natural History already had friends who were interested in art, but it had not occurred to them that the Museum's animal groups had any relation to sculpture because these groups had not been presented in the accepted materials of sculpture such as stone and bronze. Through the medium of bronze I hoped to lead them to see in the taxidermist's productions something worthy of their support as patrons of art.

So I set to work to do a bronze that would prove that a taxidermist could be an artist. Years before I had heard the story of an elephant bull wounded by hunters, whose two comrades had ranged themselves one on either side and helped him to escape. I have told the story in detail elsewhere. It always appealed to me as showing a spirit in the elephant that I should like to record. I set to work on The Wounded Comrade. It was a part of the story of the elephant, a theme that always aroused enthusiasm in me. And I felt it was a labour of love for African Hall. It was pleasant work. It went well. The thing seemed to take shape naturally. It was soon finished. Then came its test.

Mr. J. P. Morgan came to the Museum to talk over African Hall. I explained the whole plan, showed him the model of the hall and incidentally The Wounded Comrade. He liked the scheme. As

he left he said that he was convinced. "And," he added, "I don't mind saying," pointing to the little bronze of The Wounded Comrade, "that it is what did it." I shall always be indebted to Mr. Morgan for that sentence. It gave me an extraordinary amount of contentment. A. Phimister Proctor, the animal sculptor, also came to see The Wounded Comrade in my studio. He spent a long time in silence, carefully studying the little model. I knew that Mr. Proctor never gave praise lightly, but that he never hesitated to express admiration when in his opinion the work had merit. I felt that much depended on his praise or blame. And when he finally spoke, his enthusiasm was keen. I did not realize how keen until an order came for a bronze of The Wounded Comrade from Mr. George Pratt, a friend of Mr. Proctor, whose only impression of the piece was gained from Mr. Proctor's description. Throughout my career as a sculptor nothing has meant so much to me as the encouragement and appreciation of the man who first declared The Wounded Comrade a success.

In recognition of this first bronze, I was made a member of the American Sculpture Society. Inasmuch as such a cordial reception was accorded to The Wounded Comrade by artists as well as by the general public, I felt justified in devoting more attention to sculpture. I felt that I had many stories to tell about elephants and that I could tell these stories more effectively by the work of my hands than in any other way. One chapter is told in the group of

mounted elephants now in the American Museum of Natural History. Many others can be told in small bronzes. I want to tell these stories, and in the time I have on earth I could not record many elephant stories in taxidermy, for one group really done well takes years—but I can tell these stories in bronze.

After The Wounded Comrade had made a success, many of my friends came to my studio (where I did taxidermy) in the Museum and advised me to keep on making bronzes. "Here's your opportunity," they said. "You have a market. Fortune favours you. Don't neglect the fickle lady."

But I did not follow this advice and make many bronzes. It may have been because I was lazy or busy with other things, but I like to think that it was because I had decided not to make bronzes unless I had a real story to tell. I wanted to do justice if I could to my friend, the elephant. And, also, I wanted to do what I did well enough to prove that a taxidermist could be, as he ought to be, an artist.

So I progressed with sculpture very slowly. In the nine years since The Wounded Comrade was made I have made only six bronzes.

In my second piece I have pictured a scene that will always remain very vivid in my memory—a charging herd. I had been following a large herd of elephants, two hundred or more, in the Budongo Forest for two days. They had broken up into small bands and the particular band which I was following had got near the edge of the forest. Nevertheless, I was

having a hard time to get a look at them. Finally, I had recourse to the somewhat hazardous experiment of beating on the tree trunks with sticks in the hope of scaring them into the open. This was successful. I followed them, but the grass was so high that I couldn't see over it. I was in the act of climbing a tree for better observation when they came rolling along, grunting and squealing, back to the forest. They passed me within twenty-five yards. They were irritated sufficiently to convince me that it was time to let them alone and go to camp. I started along the edge of the forest. As I was pushing along through the high grass a few minutes later I heard another band coming out of the forest. As I couldn't see over the grass I ran to an ant-hill. This ant-hill was six or seven feet high. As I got on top it I saw, about one hundred yards away, eleven great animals pass one by one over a little rise. I had as good a view of this majestic march as a man will ever get. When they had gone two or three hundred yards, they suddenly stopped. They had got down wind and had smelt me. Then they began to talk. There was grumbling and rumbling. Conversation of this kind meant trouble. It was an old story to me. And trouble came. They came back squealing and roaring. I had to wait the first two hundred yards of the charge without shooting for they were behind the ridge. Then they loomed up over it, led by an old cow with her trunk up and her great ears cocked. As the leader lost the scent and slowed a little, they jammed into a solid mass. Then the old cow saw me

perched on my ant-hill. Changing course, they came toward me, falling apart as they came.

That picture stays in my memory. And as I saw it I have put it in bronze. The bronze shows the first seven elephants of the herd jammed together in that moment of hesitation just after the old cow saw me and turned in my direction. Her trunk is curled up tight, her ears back and all cleared for action. The elephant on her left is following her example. The others still have their trunks extended, feeling for my scent.

The next elephant story that I told in bronze grew out of another experience of mine. I was following a herd of elephants in bush country. I was some distance behind them and they knew nothing of me. Suddenly I heard a great commotion, squealing and beating of bushes. A few minutes later the herd moved on. When I came to the spot where the commotion had been I found the bushes all trampled down and, at one side of the area of destruction in the sand, the remains of a big green tree snake that had been stamped into the ground. I followed after the herd but was soon deflected from the main body by noises in a little glade off at one side of the main trail. I went to the edge of this glade and saw a young bull elephant smashing about in the forest alone, breaking down trees, squealing, and in general acting like a small boy who had been stung on the nose by a hornet. After a while he quieted down and went along after the others, grumbling and protesting. I came to the conclusion that while feeding in the

bushes he had thrust his trunk too close to a poisonous tree snake and had been stung; that he had beaten the snake on to the ground with his trunk and stamped it to death. In the bronze I pictured the snake alive on the ground and the elephant in the act of trampling it to death.

In addition to these elephant bronzes I have done one other bronze of a combat between a lion and a buffalo, and I have two other elephant subjects started in clay. I have never seen a lion and a buffalo fight nor do I know of any one else who has. But I know at least two authentic records of the dead bodies of a lion and a buffalo together—mute evidence of a fight to a finish and death to both. And I have seen dead buffalo carcasses from which one could tell pretty well how the lion had killed his prey. The lion tries to throw the buffalo in much the same manner as a cowboy "bulldogs" a steer—that is, he throws him by jerking the buffalo's head down. In the bronze I have represented the lion as having "bulldogged" the buffalo by catching his nose with a front paw and bending his head to the ground in his effort to throw him. The buffalo has saved himself from a fall by bracing himself with one front foot and the scene is set for a battle royal unless the lion bolts.

One of the bronzes that will soon be published records a scene that will always be a pleasant memory to me. I was watching an elephant herd on the march through an open grass country. The elders moved along sedately enough, but at one side of the herd

several babies were squealing and pushing each other —having a fine time at play. Sometimes they were ahead of the herd and sometimes behind it, but all the time in a very gay mood. There seemed to be something that they were playing with, but the grass was too high and I was too far off to make out what it was. However, where the trail of the herd finally went into the forest, I discovered the babies' plaything. It was a big dirt ball about two and one half feet in diameter, a fragment of an ant-hill. These ant-hills are made of a mixture of saliva and sand which when baked by the African sun gets almost as hard as brick. A steel-jacketed bullet will be cut all to pieces before penetrating the surface of an ant-hill at all. In some way the baby elephants had got a fragment of an old ant-hill that was nearly round and this they had used as a ball to roll along in their play. It is not so surprising, therefore, that an elephant can be made to do tricks with a ball in the circus!

I am putting the youngsters and their ball into bronze for one group.

The other is called At Bay and represents an elephant with trunk up standing at bay with his hind leg tied to a great log.

One of the native's methods of hunting elephants is to dig a pit in an elephant path, cover the pit over with a "basket"—a kind of trap—put a noose on top of the "basket," and camouflage the whole with grass and leaves. When the trap is set there is no evidence of anything but a plain and safe path. The

noose is one end of a twisted rawhide cable, the other end of which is fastened to a heavy log. If the trap works, the elephant steps on the "basket" and his leg goes through. The "basket" sticks to his leg and holds the noose until the elephant moves enough to draw it tight. Then he begins to drag the heavy log through the forest. He cannot go far or fast and he leaves an unmistakable trail. He is a high-strung, nervous creature and when after a few days of trekking about with his tormenting log the natives come up with him, he is weak from lack of food and water. There he stands at bay, as I have pictured him in bronze. But his defiance is of slight avail, for there is little to be feared from his charge. It is comparatively simple for his enemies to finish him off with poisoned spears and arrows.

In my bronzes I am telling bit by bit my stories of African animals. A series of three groups telling the story of native lion-spearing will be finished by the time this book is out and will ultimately take its place in Roosevelt African Hall. In 1911 I got together a band of Nandi spearmen on the Uasin Gishu Plateau to hunt lions. I wanted a motion picture of native lion-spearing, the most dramatic thing Africa has to offer. In twenty days the Nandi had speared ten lions and five leopards. My moving pictures were not very satisfactory but I did get two other very diverse results from the trip—the determination to invent a better camera for wild-animal photography, and the idea for these lion-spearing groups.

The first two groups represent three native spear-

men in the act of facing the charge of a lion and lioness, the lioness characteristically leading the charge. The third group, a sequel to the other two, shows the three hunters chanting a requiem over the dead lion.

I have done another lion—one that interests me more than all the others. And this piece of sculpture came about in this way. When I met President Roosevelt at the White House on my return from Africa in 1906, I was impressed with the power and humanity of the man as all were who knew him. One of the great experiences of my life was that quiet talk with Theodore Roosevelt in the shade of the acacia tree on the Uasin Gishu Plateau when I came to know the man and to love him. After our return from Africa, he was constantly reminding me of my unwritten African book and saying that he wanted to write a foreword and a chapter for that book. But I had no such hankering to write as I had to do sculpture, and so I put it off. At last, however, in 1919, after the war was over, I sat down one day and started to write him a letter to say that I would begin the book. I had written the two words, "Dear Colonel," when the telephone rang. It was my friend, George H. Sherwood, the executive secretary of the Museum.

"Ake," he said, "I have bad news for you. Colonel Roosevelt died this morning."

For me the bottom dropped out of everything. From that time until I got back from the funeral I did nothing. When I returned from the funeral I was terribly depressed. I had to find expression. I found it most naturally in modelling. I set to work

on a lion. I meant to make it symbolic of Roosevelt, of his strength, courage, fearlessness—of his kingly qualities in the old-fashioned sense. And this modelling afforded me great comfort and relief. I worked on it day after day. Taxidermy, groups and bronzes, were all forgotten. While I was so engaged one day an old friend of mine, James Brite, an architect, called me on the telephone. I asked him if he wouldn't come up and design a pedestal for the lion. He came up not only that day but many others. Neither of us knew just what we were going to do with it when it was finished. I had a vague idea of casting it, making one bronze for Mrs. Roosevelt, and destroying the model.

We were still working when one day Archie Roosevelt came in. I showed the lion to him.

"None of us want to see statues of Father," he said. "They can't make Father," and as he put his arms about the pedestal of the lion, "but this is Father. Of course, you do not know it, but among ourselves we boys always called him the 'Old Lion' and when he died I cabled the others in France, 'The Old Lion is dead.'"

Other members of the Roosevelt family and friends of the Colonel came, and what they said encouraged us. I made one model after another, trying to blend the majesty of a real lion with the symbolism. Then one day when Mr. Brite and I were in the studio a man came in whom we had never seen before. After some desultory conversation he asked how large the lion was to be. We said we didn't know. "How

big ought it to be?" we asked. "It ought to be as big as possible and it ought to be placed in Washington," was his reply.

Brite pointed out that so large a lion would necessitate a pedestal that would nearly cut him off from view from the ground. And then developed the idea of placing the lion in a great bowl.

That was the beginning of a long period of work on a great plan for a Roosevelt Memorial.

All this was originated without thought of the Roosevelt Memorial Society which had raised a million and a half dollars among other things to erect a monument to Roosevelt. The natural thing to do was to submit this offering of ours to that society. We have done this, and it will be judged in competition with the designs of others. If it should be chosen it will be because no other competitor, though they all be better sculptors, can possibly have the same deep desire as I to perpetuate the spirit of Theodore Roosevelt and to do him all honour.

CHAPTER XI

HUNTING GORILLAS IN CENTRAL AFRICA

IN 1910 I was in British East Africa collecting specimens for the group of elephants recently completed in the American Museum of Natural History in New York. My plan at that time was to leave the region of snow-capped Mt. Kenia when I had finished making my elephant studies, and to go into German East Africa, as it was then, in an endeavour to get specimens for a group of gorillas to be mounted for the Museum. I had obtained the proper papers from the German authorities, and I had funds for the purpose. Nevertheless, I had to abandon the plan at that time because an elephant caught me unawares and mauled me sufficiently to prevent my carrying out my project.

But the gorilla group remained as an interesting prospect ahead, and I read eagerly any reports which came to my knowledge of hunters or scientists who had seen or killed any of these animals. Most gorillas reported since their original discovery had been reported from nearer the west coast of Africa than the region which I had intended to explore for them, but I had heard of one instance of a gorilla in German East Africa. The story was of a German who had tried to catch a grown gorilla in a net. He

had succeeded in getting the net over the animal and then the animal had succeeded in tearing his way out of the net and killing the man. Whether this story was true or not I do not know. Before I left Africa, in 1911, I heard that a man named Grauer had gone into the country where I had intended going and that he had come out through Nairobi with eight gorilla skins. Altogether there came to me considerable corroboration of my belief that there were gorillas in the Lake Kivu country of Central Africa, and my intention to go there and collect the material for a group remained constant although, through the period of the war, inactive.

It came to life in 1920. One night I was expounding the beauties of Africa to my friend Mr. H. E. Bradley when he turned to Mrs. Bradley and said, "Let's take him at his word and spend a year in Africa." Mrs. Bradley asked what they should do with their five-year-old daughter. Nothing pleased me more than to assure them that an expedition to Central Africa was entirely safe and practicable for women and children, and so an expedition was agreed upon. Years before, when she was a child, I had promised the niece of a friend of mine, Miss Martha Miller, to take her to Africa. I had never been allowed to forget the promise. Now the time for fulfillment had come. So the party was formed of these two ladies, Bradley, the five-year-old child, Miss Priscilla Hall, and me. Miss Hall had agreed to look after the youngster while the others hunted. Not long afterward it was definitely decided that the expedi-

tion was to be a gorilla expedition. I received a letter from an Englishman, Mr. C. D. Foster, who had shot a male and female gorilla and caught a baby in the country I had in mind. That led us to base our plans on gorillas alone, and it was a gorilla expedition, although Miss Miller killed an elephant the first time she shot at anything in Africa and both she and Mrs. Bradley killed lions.

To me the gorilla made a much more interesting quarry than lions, elephants, or any of the other African game, for the gorilla is still comparatively little known. Not many people have shot gorillas and almost none have studied them in their native habitat. The gorilla is one of the most remarkable and least known large animals in the world, and when is added to that the fact that he is the nearest to man of any other member of the animal kingdom, a gorilla expedition acquires a tremendous fascination.

An Englishman named Battell—a captive of the Portuguese of Angola—in 1590 described an animal which in all probability was the gorilla. Vague stories from other sources appeared in travellers' accounts, but no real description of the gorilla came to Europe or America until December, 1847, when Dr. Thomas S. Savage, a missionary, published a paper in the Boston *Journal of Natural History*. Doctor Savage was detained in April of that year at a mission on the Gaboon River in West Africa and there made his discovery. He did not see a live gorilla himself, but from skulls and information brought him by

natives, made a rather remarkable description of the animals, part of which is as follows:

Its height is above five feet, it is disproportionately broad across the shoulders, thickly covered with coarse black hair, which is said to be similar in its arrangement to that of the Engé-eco (the chimpanzee). With age it becomes gray, which fact has given rise to the report that both animals are seen of different colors. . . .

Their gait is shuffling, the motion of the body, which is never upright as in man, but bent forward, is somewhat rolling, or from side to side. The arms being longer than those of the chimpanzee it does not stoop as much in walking; like that animal it makes progression by thrusting its arms forward, resting the hands on the ground and then giving the body a half jumping, half swinging motion between them. In this act it is said not to flex the fingers as does the chimpanzee, resting on the knuckles, but to extend them, thus making a fulcrum of the hand. When it assumes the walking posture to which it is said to be much inclined, it balances its huge body by flexing the arms upward. They live in bands, but are not so numerous as the chimpanzees; the females generally exceed the other sex in number. My informants all agree in the assertion that but one adult male is seen in a band; that when the young males grow up a contest takes place for mastery, and the strongest, by killing and driving out the others, establishes himself as the head of the community. The silly stories about their carrying off women from the native towns, and vanquishing the elephants, related by voyagers and widely copied into books, are unhesitatingly denied. They have been averred of the chimpanzee, but this is still more preposterous. They probably had their origin in the marvelous accounts given by the natives, of the Engé-ena, to credulous traders.

Their dwellings, if they may be so called, are similar to those of the chimpanzee, consisting simply of a few sticks and leafy branches supported by the crotches and limbs of trees; they afford no shelter, and are occupied only at night.

They are exceedingly ferocious, and always offensive in their habits, never running from man as does the chimpanzee. They

are objects of terror to the natives, and are never encountered by them except on the defensive. The few that have been captured were killed by elephant hunters and native traders as they came suddenly upon them while passing through the forests.

It is said that when the male is first seen he gives a terrific yell that resounds far and wide through the forest, something like kh-ah! kh-ah! prolonged and shrill. His enormous jaws are widely opened at each expiration, his under lip hangs over the chin, and the hairy ridge and scalp is contracted upon the brow, presenting an aspect of indescribable ferocity. The females and young at the first cry quickly disappear; he then approaches the enemy in great fury, pouring out his horrid cries in quick succession. The hunter awaits his approach with his gun extended: if his aim is not sure he permits the animal to grasp the barrel and as he carries it to his mouth (which is his habit) he fires; should the gun fail to go off, the barrel (that of an ordinary musket, which is thin) is crushed between his teeth, and the encounter soon proves fatal to the hunter.

The killing of an Engé-ena (gorilla) is considered an act of great skill and courage, and brings the victor signal honor. A slave to an Mpongwe man, from an interior tribe, killed the male and female whose bones are the origin of this article. On one occasion he had succeeded in killing an elephant, and returning home met a male Engé-ena, and being a good marksman he soon brought him to the ground. He had not proceeded far before the female was observed, which he also killed. This act, unheard of before, was considered almost superhuman. The man's freedom was immediately granted to him, and his name proclaimed abroad as the prince of hunters.

Eight years afterward the first white man killed a gorilla. In 1855 Paul Du Chaillu, a French-American, went to West Africa after gorillas. To our party, with the intention of not only shooting gorillas but of studying them and taking moving pictures of them, the narrative of this intrepid little hunter had particular fascination.

On the day that Du Chaillu saw the first gorilla ever seen by a white man his black and savage attendants had assuaged a hunger that beset the party by eating a snake. This was more than Du Chaillu could do. His account* reads:

When the snake was eaten, and I, the only empty-stomached individual of the company, had sufficiently reflected on the disadvantages of being bred in a Christian country, we began to look about the ruins of the village near which we sat. A degenerate kind of sugar-cane was growing on the very spot where the houses had formerly stood, and I made haste to pluck some of this and chew it for the little sweetness it had. But, as we were plucking, my men perceived what instantly threw us all into the greatest excitement. Here and there the cane was beaten down, torn up by the roots, and lying about in fragments which had evidently been chewed.

I knew that these were fresh tracks of the gorilla, and joy filled my heart. My men looked at each other in silence, and muttered *Nguyla*, which is as much as to say in Mpongwe, *Ngina*, or, as we say, gorilla.

We followed these traces, and presently came to the footprints of the so-long-desired animal. It was the first time I had ever seen these footprints, and my sensations were indescribable. Here was I now, it seemed, on the point of meeting face to face that monster of whose ferocity, strength, and cunning the natives had told me so much; an animal scarce known to the civilized world, and which no white man before had hunted. My heart beat till I feared its loud pulsations would alarm the gorilla, and my feelings were really excited to a painful degree.

By the tracks it was easy to know that there must have been several gorillas in company. We prepared at once to follow them.

The women were terrified, poor things, and we left them a good escort of two or three men to take care of them and reassure them. Then the rest of us looked once more carefully

*Reprinted through the courtesy of Harper & Bros., publishers of Du Chaillu's book, "Equatorial Africa."

at our guns—for the gorilla gives you no time to reload, and woe to him whom he attacks! We were armed to the teeth. My men were remarkably silent, for they were going on an expedition of more than usual risk; for the male gorilla is literally the king of the African forest. He and the crested lion of Mount Atlas are the two fiercest and strongest beasts of this continent. The lion of South Africa cannot compare with either for strength or courage.

As we left the camp, the men and women left behind crowded together, with fear written on their faces. Miengai, Makinda, and Ngolai set out in one party, and myself and Yeava formed another, for the hunt. We determined to keep near each other, that in emergency we might be at hand to help each other. And for the rest, silence and a sure aim were the only cautions to be given.

As we followed the tracks we could easily see that there were four or five of them; though none appeared very large. We saw where they had run along on all fours, the usual mode of progression of these animals, and where from time to time they had seated themselves to chew the canes they had borne off. The chase began to be very exciting.

We had agreed to return to the women and their guards, and consult upon final operations, when we should have discovered their probable course; and this was now done. To make sure of not alarming our prey, we moved the whole party forward a little way to where some leafy huts, built by passing traders, served for shelter and concealment. And having here bestowed the women—who have a lively fear of the terrible gorilla, in consequence of various stories current among the tribes, of women having been carried off into the woods by the fierce animal—we prepared once more to set out in chase, this time hopeful to catch a shot.

Looking once more to our guns, we started off. I confess that I never was more excited in my life. For years I had heard of the terrible roar of the gorilla, of its vast strength, its fierce courage if, unhappily, only wounded by a shot. I knew that we were about to pit ourselves against an animal which even the tiger of these mountains fears and which, perhaps, has driven the lion out of this territory; for the king of beasts, so numerous

elsewhere in Africa, is never met in the land of the gorilla. Thus it was with no little emotion that I now turned again toward the prize at which I had been hoping for years to get a shot.

We descended a hill, crossed a stream on a fallen log, and presently approached some huge boulders of granite. Alongside of this granite block lay an immense dead tree, and about this we saw many evidences of the very recent presence of the gorillas.

Our approach was very cautious. We were divided into two parties. Makinda led one and I the other. We were to surround the granite block behind which Makinda supposed the gorillas to be hiding. Guns cocked and in hand, we advanced through the dense wood, which cast a gloom even in midday over the whole scene. I looked at my men, and saw plainly that they were in even greater excitement than myself.

Slowly we pressed on through the dense brush, fearing almost to breathe for fear of alarming the beasts. Makinda was to go to the right of the rock, while I took the left. Unfortunately, he circled it at too great a distance. The watchful animal saw him. Suddenly I was startled by a strange, discordant, half human, devilish cry, and beheld four young gorillas running toward the deep forests. We fired, but hit nothing. Then we rushed on in pursuit; but they knew the woods better than we. Once I caught a glimpse of one of the animals again, but an intervening tree spoiled my mark, and I did not fire. We ran till we were exhausted, but in vain. The alert beasts made good their escape. When we could pursue no more, we returned slowly to our camp, where the women were anxiously expecting us.

I protest I felt almost like a murderer when I saw the gorillas this first time. As they ran—on their hind legs—they looked fearfully like hairy men; their heads down, their bodies inclined forward, their whole appearance like men running for their lives. Take with this their awful cry, which, fierce and animal as it is, has yet something human in its discordance, and you will cease to wonder that the natives have the wildest superstitions about these "wild men of the woods."

Both Savage and Du Chaillu and all succeeding authorities, including the standard works on natural

history, speak of the gorillas as among the most powerful and ferocious animals on earth. And this reputation is so firmly established in the popular mind that our plan of taking ladies with no previous hunting experience of any kind into a gorilla country in Central Africa was looked upon as madness. But to the general theory of the ferocity of wild animals I have never been a convert. And the more I have seen of wild animals in Africa the less I have believed in their ferocity. Consequently, I explained my creed concerning the gorillas in this fashion:

I believe that the gorilla is normally a perfectly amiable and decent creature. I believe that if he attacks man it is because he is being attacked or thinks that he is being attacked. I believe that he will fight in self-defense and probably in defense of his family; that he will keep away from a fight until he is frightened or driven into it. I believe that, although the old male advances when a hunter is approaching a family of gorillas, he will not close in, if the man involved has the courage to stand firm. In other words, his advance will turn out to be what is usually called a bluff.

I believe, however, that the white man who will allow a gorilla to get within ten feet of him without shooting is a plain darn fool, for certainly the average man would have little show in the clutch of a three or four hundred pound gorilla.

My faith in the general amiability and decency of the gorilla is not based on experience or actual knowledge of any sort, but on deductions from the observation of wild animals in general and more particularly of monkeys. There are few animals that deliberately go into fight with an unknown antagonist or with a known antagonist, for that matter, without what seems to them a good reason. In other words, they are not looking for trouble.

The lion will fight when the maintenance of his dignity demands it. Most animals will fight only when driven to it through fear, either for themselves or their young.

The first living gorilla that I ever observed was in the Zoölogical Park in London many years ago. It was very young and its chief aim in life seemed a desire to be loved. This has seemed to be the chief characteristic of the few live gorillas that I have seen in captivity. They appear to have an extremely affectionate disposition and to be passionately fond of the person most closely associated with them; and I think there is no doubt that John Daniel, who died in the Ringling Brothers Circus in Madison Square Garden in the spring of 1921, died of a broken heart because he was separated from his mistress. I did not have the pleasure of seeing John Daniel alive; but in death he certainly had the appearance of anything but a savage beast. The above notes are here set down for the purpose of recording the frame of mind with which I am going into the Kivu country to study, photograph, and collect gorillas.

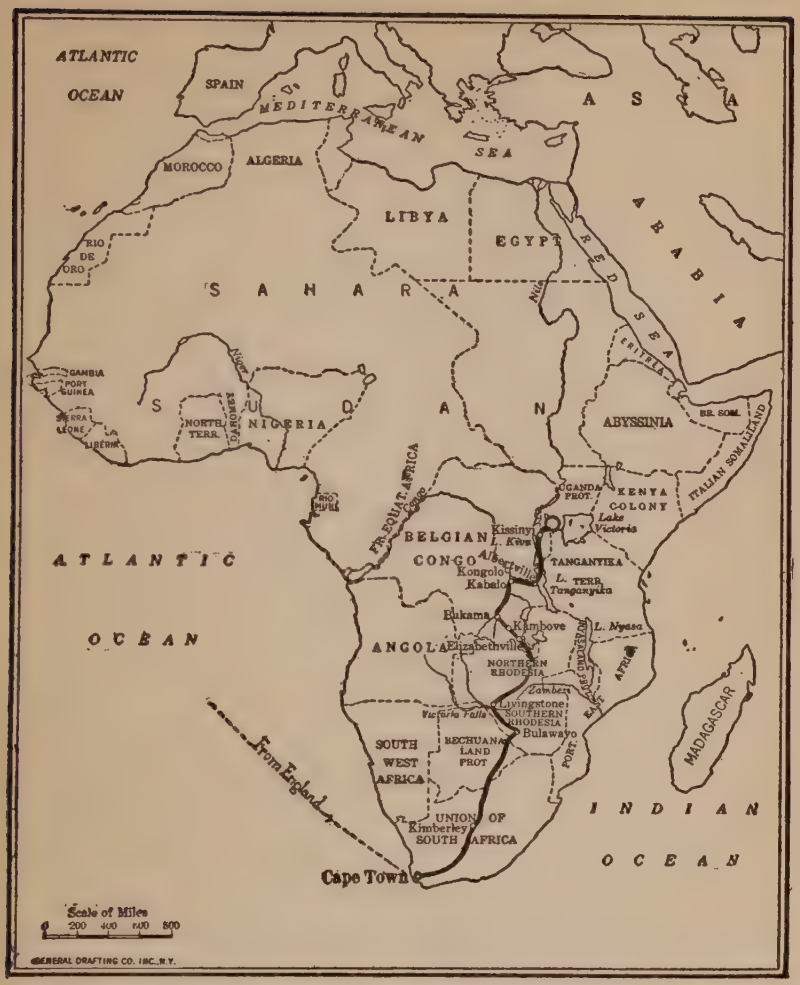
Going as I am, equipped with motion-picture cameras with which one can get motion pictures under most adverse conditions, I am led to hope for something in the way of photographs of live wild gorillas. I hope that I shall have the courage to allow an apparently charging gorilla to come within reasonable distance before shooting. I hesitate to say just what I consider a reasonable distance at the present moment. I shall feel very gratified if I can get a photograph at twenty feet. I should be proud of my nerve if I were able to show a photograph of him at ten feet, but I do not expect to do this unless I am at the moment a victim of suicidal mania.

The rest of the party had the courage of my convictions and with these tenets we set out, men, women, and child to hunt the "ferocious" gorilla in the heart of Africa.

While getting provisions and equipment in London I had the good fortune to be able to check up with accuracy the location of the gorilla country. I had lunch with Sir Northrop Macmillan from Nairobi, Kenia Colony, Sir Charles Ross, and Mr. Grogan, who

twenty-four years before had walked alone from the Cape to Cairo—the first man who ever made that trip. Sir Charles Ross had directions from Mr. T. Alexander Barnes for getting to the Kivu region where Barnes had the year before killed a gorilla. Mr. Grogan supplemented these directions, for in this very region on his famous walk he had found a gorilla skull. He knew the region well, for he had been stationed in it during the war. With this very valuable corroboration we set sail for Cape Town.

To the Kivu gorilla country from Cape Town is a varied and interesting journey. It took us about six weeks of constant travelling. The journey from Cape Town to Bukama, where we left the railroad, occupied seventeen days including stops which are quite a feature of South African travel. At one place we waited six days for a train. It is worth notice that on this entire railroad journey we did not see a single head of game—so rapidly has African wild life disappeared in the south. From Bukama we travelled on a steel barge towed by a river boat for a five-day run down the Lualaba which is really the upper waters of the Congo. The boat ran along during the day and tied up at night so that we missed nothing of the beauty and interest of that part of the river's course. The bird life was in great profusion. Great trees hung over the river and were reflected from its placid surface with almost perfect outline and detail. There were a few crocodiles in sight. We saw one hippopotamus and once on this trip we saw elephants some distance from the bank.



A map showing Mr. Akeley's route to the gorilla country north of Lake Kivu and its location in Africa

At the end of this lazy steamer trip we came to Kabalo from which occasionally a train sets out upon the journey to Albertville on Lake Tanganyika. A boat on the lake took us from Albertville to Usumbura from which a seven days' *safari* brought us to the lower end of Lake Kivu. To get from the bottom of Lake Kivu to the upper end, we had to make arrangements for a special trip of the little government boat. This we did with the Belgian Administrator at Usumbura. Here, as elsewhere, my experience with the administrative officers in these outposts of the Belgian Congo was one of courtesy and effectiveness. Halfway up the lake we stopped at the White Friars' Mission on the west bank and heard the story of a gorilla recently killed in the vicinity. This gorilla had come down into a banana grove not far from the Mission. The chief of the village which owned the grove told his followers to go out and chase the beast away, but not to go armed, for the beast, in the superstition of the neighbourhood, had some sacred attributes. The chief's subjects accordingly went forth with sticks to drive out the gorilla, but he refused to be driven and resented the disturbance enough to catch one of his tormentors and kill him. After this the chief thought the gorilla less sacred and ordered his subjects to take their spears with them and kill the animal.

I was not entirely clear about the veracity of this tale nor whether it confirmed my theory about the gorilla or the more usual "ferocious" theory. If the natives were willing to go out to chase the gorilla

away armed only with sticks, its reputation for ferocity could not be great. On the other hand, the confidence in the animal's harmlessness seemed to have been misplaced. But one fact did stand out. We were getting into the real gorilla country. That quickened the blood. The next day we went to the head of the lake.

A Belgian administrator and his wife who were on the boat with us left us at Kissenyi at the northern end of Lake Kivu. They had a three weeks' *trek* before them, over the mountains to their own home and the district over which the administrator had supervision. They had told us many stories of gorillas in their section of the country, of the gorillas becoming so aggressive that they had entered several villages and driven out the natives, and they had urged us to go with them, but we stuck to our original plan.

Here at Kissenyi was another Belgian station and here we met Mrs. T. Alexander Barnes, the wife of a man whose directions we had received from Sir Charles Ross. Barnes himself was in the interior hunting gorillas for the British Museum. We sent a note to him because we did not want to interfere with his hunting, and in the meanwhile set to work to get our porters and guides ready. We decided it would be best for the women to stay at Kissenyi for the time being and for me to push on for the gorilla country. There were two reasons for this decision. Mrs. Bradley had a little touch of fever and it was not advisable for her to leave, and secondly, while I

did not believe much in the danger to us from the gorillas, I was greatly afraid that with a large hunting party there might be equally little danger to them. So it was determined that I should try to insure the Museum some specimens and if possible get the first moving pictures of live wild gorillas ever taken.

It was a three days' march from Kissenyi to the White Friars' Mission at Lulenga in the interior. This Mission I found was the base from which Barnes operated and also, I learned, it was the base the Prince of Sweden had used. It lay near the foot of Mt. Mikeno in a country of volcanic origin. The White Friars themselves carry on here the teaching of the Catholic religion to which they add the practice of medicine and teaching of manual training. Some of the friars have been there as long as seventeen years. At the Mission I was supplied with a guide. I went a little way into the woods and was shown signs that gorillas had fed there within a day or two. I was nervous and anxious. The long trip was done. I was actually in the gorilla country. I was an alternating current of eagerness to go and fear that I should find nothing.

The latter mood prevailed the next morning, for although I was ready to start for the bamboos by daylight my guides, who were supposed to be in camp, were nowhere to be found. I had to send for them, but we did not get started before eight.

We trailed up through the forest into the bamboos, seeing signs of elephant and buffalo—some of the signs being made the night before—and I had to

pinch myself occasionally to bring about the realization that I was not hunting elephants on a miniature Kenia. There was the same vegetation, except that the trees were smaller. There were elephant trails, but only a few and with small tracks. There were no great forest trees like those of Kenia, no bamboos seventy-five feet high with five-inch stems. There was just little stuff, but still it was all reminiscent of Kenia. One thing, the slopes were just as steep and just as slippery, and the mud in the level places just as deep and sticky as Kenia's.

Through this forest there are native trails or game trails almost everywhere. We had followed these trails for about two hours up the side of Mikeno when we came to a spot where there was a little mud hole in the path. I'll never forget it. In that mud hole were the marks of four great knuckles where the gorilla had placed his hand on the ground. There is no other track like this on earth—there is no other hand in the world so large. Nearest to it is the hand of the chimpanzee, and he does not place his hand on the ground in the same way. As I looked at that track I lost the faith on which I had brought my party to Africa. Instinctively I took my gun from the gun boy. I knew then the feeling Du Chaillu described in his quaint phrase, "My feelings were really excited to a painful degree."

I had more thrill from the sight of this first track than from anything that happened later. I forgot all about Kenia as the guide took up the trail. Half an hour later we came upon other tracks, tracks made

by the feet of the beast, enormous human-looking tracks showing the marks of a heel which no other living thing in the world but the gorilla and man has. I gave the boy back the Springfield and took the big .475 elephant gun. And although the next bit of going was hard and wearing, I carried the gun myself and trusted it to no gun boy.

We followed the trail for two hours, and I think a full half hour was spent on all fours in true story-book fashion.

It led us through a clearing where bamboo cutters had been at work, and we failed to pick it up again even though I offered the guides a king's ransom (in their eyes) if they would show me the old boy before dark. They were lackadaisical about the whole affair. I had to give it up, and as I started for camp I realized that I was very tired. Then we spent an hour going straight up the steepest possible slope and down again following sounds that turned out to be made by a troop of monkeys. When we reached camp at three o'clock in the inevitable downpour of this season, I was "all in." The rain stopped, and I called a conference of the guides with the result that I came to the conclusion that they were entirely useless. They did not want to go on at all. I broke camp immediately and started a two-and-a-half hour march to the Mission not knowing just what my next move would be—probably to hunt up some "bush-men" as guides. I reached the Mission before sun-down, in the usual rain, and went to bed.

The next morning I came around to the southwest

of Mikeno, about three hours from the Mission, to the village of the Sultan of Burunga who came out to meet me. I explained my mission, and he immediately brought forward from the group of natives who accompanied him two splendid fellows who he said would guide me. There was a gleam of real hope in the situation. We would camp at Burunga for the night and start up the mountain in the morning. As I turned to go toward the indicated camping place, a husky, handsome native came up in breathless haste, and presented a note of recommendation as gun-bearer signed by T. A. Barnes. He was promptly engaged and everything seemed bright again.

I was ready to start soon after daylight. I had felt so keen for the coming of the light and had hoped for so much from the new gun-bearer and guides. They had a cozy nest some distance from camp; they had seemed so enthusiastic the day before and had promised an early start. I waited and waited till my patience was exhausted. I feared another farce so finally sent for them. They came smiling, confident, and keen to be off. They insisted that no porters could go—it would not be possible to carry cameras or any of the scientific kit where they were going. It was up to them. I had put myself in their hands. I wanted to at least *see* a gorilla. I still doubted that there could be such a thing in this part of the world—even though I *had* seen its tracks.

We started down into that deep chasm to the west which the camp overhung, then up to the other side—

up and up—crawling and scrambling, the guides cutting a way through the dense growth of greenery, beating down and cursing the nettles which were everywhere. On and on up to the crest of the ridge and then up along the "hogback" until we were five hundred feet above camp—then at a level along the western slope. I earnestly hoped they would go no higher; it was grilling work. We were overlooking another chasm with a still higher ridge on the far side. We stopped occasionally to scan the opposite side. It was deathly still—there was rarely the slightest breeze. Someone heard a sound across the *nullah*—very slight—but the guides were suspicious. We went on, stopping now and then to look and listen. The youngest guide, a boy of fourteen, perhaps, pointed to a spot where he had seen a movement of the vegetation. We watched closely for five minutes, then a great black head slowly appeared above the green—rather indistinct, but there could be no doubt as to what it was.

It was my first glimpse of a wild gorilla. It has left an everlasting impression, for it was so totally different from anything I had expected. In a solid wall of vivid green a great scraggly black head rose slowly into view where it remained motionless for perhaps a half minute, giving me time to view it with field glasses so that I was able to make out the features. I was actually seeing a live wild gorilla. At the end of a long journey I was face to face with the creature I sought. I took the gun with slight intention of chancing a shot at that distance unless

THE LONE MALE OF KARISIMBI

Shot by Mr. Bradley

THE HEAD OF MR. AKELEY'S FIRST GORILLA

there should be opportunity for very careful and deliberate aim. The shaggy head was withdrawn—then a glimpse of the great silvery back and we saw no more. We went into the beastly chasm and up again to where he had been.

The guides were too eager; I had constantly to hold them back while I stopped to breathe. We took up his trail. He led us on to the crest of *that* ridge and then along the "hogback" till we were about one thousand feet above camp. Then as the trail swung along the other slope at the level we heard one short roar ahead of us. The thrill of it! I had actually heard the roar of a bull gorilla! It seemed perhaps two hundred yards ahead. I thought it indicated alarm and that he would lead us a merry chase. We continued along the trail slowly, for it led along a slope so steep that without the rank vegetation we could not have stuck on.

We had gone not more than one hundred and fifty yards from the time we heard the roar, with the gun-bearer just ahead and the second gun and guides behind. The gun-bearer stopped, looking up into the dense tangle above us. It was still as death—no sound of movement could I hear. The gun was in his left hand; with his right he clung to the bank just beside him. Behind there was a four-inch tree between me and a straight drop of twenty feet, then a slide of fifty feet to the edge of a chasm more than 200 feet deep. I leaned my back against this tree that I might straighten up for a better look. The gun-bearer turned slowly and passed me the .475. As I

took it I heard that roar again—thirty feet away, almost directly above. One plunge and down we would all go three hundred feet to the bottom. Without the support of the sapling at my back it would not be humanly possible to fire the big gun upward from that trail. There was a deal of comfort in the feel of that old gun even though theoretically I did not fear gorillas; it had stood by me in more than one close place. After the roar there was silence for an instant—not a branch stirred—then a crashing rush along at a level, above and past me—another roar—back again to where he had been. I had seen nothing but a swaying of the mass of vegetation right down to our feet. He stopped where he had been at first. Silence. Through the green against the sky I seemed to make out a denser mass—the outline of his head. I aimed just below and his fourth roar was broken by the roar of the .475. A terrific crashing plunge of three or four hundred pounds of beast, he struck the trail eight feet from me. The gun was on him. There was a soft nose in the left barrel ready for him, but it was unnecessary. The slight ledge of trail did not stop him in the least. He crashed on down over and over, almost straight downward toward the edge of the chasm.

My heart sank for I realized that if he went to the bottom I would stand little chance of being able to recover him and my first gorilla would have been killed in vain. Overhanging the edge of the chasm there was a lone tree, two feet in diameter, and the gorilla in his plunge struck this tree, rolled

up on its leaning trunk, and back again to its base, where he came to rest with his head hanging over on one side of the tree and his feet on the other. Had there been a single movement in him he must have gone on. The solid from the right barrel had done its work well—in just above the heart through the æorta, through the spine, and out through the right shoulder blade. As he came crashing down I somehow felt confident that all was well. I have never had a more thrilling experience, but I've been much more frightened many times. The gun-bearer was a trump. He was the worst scared black man I ever saw. If I looked as frightened as he, I am thankful no movie camera was on the job. You see, he was between me and the beast when he struck the trail eight feet away.

I had left the cameras and tools in camp to be sent for if they were needed. As the beast lay, a camera could not be used. I could do nothing in sketches worth while, so I sent for nothing. I set to work with my jack-knife and one of the boys had a native iron knife and with these two tools we skinned and skeletonized the gorilla. As we turned him over it kept all hands busy to avoid losing the balance of the beast and ourselves. It took more than a half hour to get the skin and skeleton back to where I had shot from—a human rope stunt. The boys all worked beautifully. Then we had the long, hard *trek* back to camp.

All hands in camp (forty odd) got a present—enough so that they were all happy, although that

did not take much. I was busy all the following day with skin and skeleton, making such studies as were possible. Everything was set for a real hunt on the next day, but I could not hope for a more thrilling and dramatic episode than the taking of my first gorilla.

CHAPTER XII

ADVENTURES ON MT. MIKENO

THE day after I shot my first gorilla on the slopes of Mikeno I spent in camp. I should have preferred to spend it resting, for the day before had been a strenuous one, especially for a man suffering from blood poisoning, as I was. I had had it for some time and had lost about twenty pounds during the preceding three weeks. This left me in a weakened condition and a rest would have been welcome. Had I been hunting merely to kill I should have laid off a day. But science is a jealous mistress and takes little account of a man's feelings. I had skinned the old gorilla roughly in the field the day before. If I wanted properly to preserve the specimen, there was no time to be lost. I set the Negroes at work cleaning the skeleton, keeping an eye on them as I worked at other things to see that they did not lose any of the bones. I had personally to take care of the feet, hands, and head. This latter I set up and photographed. Then I made a death mask of the face. The brains and internal organs I had to preserve in formalin. The whole business was a full hard day's work. One of the chief difficulties with scientific collecting is the necessity for doing all the skinning, cleaning, measuring, and preserving at once.

For one man one gorilla properly attended to is a full day's work. If a man gets two or three specimens, he has to keep working night and day until he gets them done.

This is one of the reasons why, although great numbers of animals are shot in Africa, there is so comparatively little scientific and taxidermical data about them. This day I was up about daybreak. I had an English breakfast, most of which had come from London with me—tea, toast, marmalade, and bacon. From then until dark I measured and skinned and preserved, and when night came I rolled into my blankets and slept the sleep of exhaustion.

When daybreak came I was ready to start again. Had I felt certain of finding gorillas in that country as easily as I now know they can be found I might have waited a day. But I had come 15,000 miles to see gorillas and I couldn't wait for the fulfillment of my hopes, nor did the ease of finding my first prize assure me that I was certain of getting the others I wanted.

We set out in the same direction as on the previous hunt. In the woods on these mountain sides the ground growth is extremely thick, and as high up as we went there were no elephant or other paths. It was necessary to go through the woods. The natives' method of travelling is to cut a trail as they proceed. They used a hooked knife of great effectiveness with which to cut the undergrowth. The stuff is thick enough to impede one's progress, but far worse than that it is filled with nettles, so that unless it is cut

out in this way one is constantly and unmercifully stung. That is bad enough for a white man who is clothed, but is even worse for the blacks who wear nothing to protect them. Nevertheless, cutting as they go, the natives make pretty good time, perhaps two miles an hour up hill and down. Anyway, I found that I had all I could do to keep up with them; weak as I was, I had frequently to slow them down.

In this way we had passed over several ridges when we came on the trail of a band of gorillas. The trail they make is plain enough, for the undergrowth is so thick that each of the animals leaves a kind of swath of bent and broken greenery. Their trail led us along the side of a steep slope, so steep that every move had to be made with caution. If the gorilla was in the habit of travelling either far or fast, catching up with him in this country would be a heart-breaking if not an impossible task. But I believe the gorilla normally travels only from three to five miles a day. He loafs along through the forest, eating as he goes. As the trail we found was fresh it was likely that the gorillas were not far away. And so it turned out. We had followed for perhaps an hour when a dislodged rock thundering down into the chasm about two hundred yards ahead of us gave a clue to their whereabouts, and so we sat tight and soon located them by moving bushes, across a bit of a bay formed by a curve of the ridge. There I saw a big female and very foolishly tried a shot with the Springfield. I suppose in justification of my lack of faith in the thing it missed fire twice and by the

time I got the big gun in hand the female had disappeared and a big silver-backed male was in sight.

He was about 150 yards away. He was just disappearing when I got the big gun to my shoulder and I had to shoot quickly. I fired and missed. They disappeared, and I fully appreciated what an ass I had been. We scrambled on for an hour more—the hillside becoming higher and more precipitous every minute. At last a slight movement of the bush above made us aware of their presence.

The fact that we came up with them again after my shooting was pretty good evidence that even when disturbed the gorilla does not travel either far or fast. The experience I had had with my first gorilla two days before corroborated this. He had, in fact, run only about 300 yards after first seeing us before stopping. As a matter of fact, I do not believe that the gorilla can run fast. Unlike animals that catch others for food, the gorilla, who eats vegetation, does not have to run for his dinner. Neither does he have to run to escape serving as dinner for some other animals. His legs, compared to his weight, are small and, in relation to man's, very short. On fair footing I think the average man could outrun a gorilla.

Where we came in sight of this band there was no friendly tree to lean against as there had been in the case of the first gorilla. The hillside was so steep that it was difficult to find footing from which to shoot. For a slight sense of security I entangled myself in a bush and stood ready to shoot.

There was not the straight drop of the other day but a steep slope which could be done on all fours—for twenty feet—and then straight down two hundred feet. I got a fair sight of an old black female and it looked as though the bushes she was in would hold her if I killed her instantly. She was fifty feet away. I fired and she came exactly as the other one had—the slope was so steep it was practically a fall—and straight at me. I tried to dodge but could not as the recoil of the gun had caused me to lose my balance a bit and I could not recover in time. I threw myself flat, face down, just in time and she passed over me. It was so steep and the mass of green stuff going with her so softened things that I merely felt her—there was no perceptible shock, but when I got up I had a great welt on the top of my head which she had caused. As I partially rose there seemed to be an avalanche of gorillas. There was a big ball of black fur, squealing madly, rolling past—actually touching me—in the wake of the old one. I took a shot at it as it went over, and, by the time I had recovered and reloaded, two others that had been close by had disappeared.

I believe that to be the fastest charge ever made by a gorilla against man. I think it was pushed home with more abandon than any other on record. I am almost certain of these two statements, the particular reason for my certainty being that the gorilla, when she charged or more correctly speaking fell down the hill, was dead and she couldn't have any of the hesitations which I believe prevent such charges by

live gorillas. The others followed her not in anger but in fear and because they accepted her lead without realizing that it was involuntary. If their charge had been aimed at me they had plenty of time to knock me off the mountain side before I could get up and shoot again, and the Negroes, being armed only with spears and hanging on a precipitous slope, were almost as defenceless.

I began to feel a good deal of confidence in my theory that the gorilla is not a ferocious beast, although I was gaining the utmost respect for his size and power. If being molested by man would make gorillas ferocious and aggressive, these animals should have been excessively dangerous, for within a very short time the Prince of Sweden had shot fourteen of them, and Barnes had killed several more. The very animals that I followed had probably heard the guns of these other men. Yet I could see no signs of ferocity. When I came up with the old male that I had killed first, he had run back and forth on the hillside barking in protest or surprise at my intrusion just as I have seen little monkeys run back and forth on a limb and bark; but of his having savage intentions against me I saw no sign. Of the two I was the savage and the aggressor. In the case of the female I had just shot, the same was true, even though she was accompanied by her baby. She evidently preferred to get away if possible. Cornered, I think and hope she would fight for her young.

What became of the last two animals I do not know. The black fur ball that I had fired at was,

I believe, the four-year-old son of the old female. He apparently caught on somewhere, for a half hour later when we were trying to find a way down we came across him and, as he ran about, one of the guides speared him. I came up before he was dead. There was a heartbreaking expression of piteous pleading on his face. He would have come to my arms for comfort.

About this time the chasm filled with a fog so dense that we could not move with safety. Another half hour and the fog was cleared by a heavy cold rain and hail and we continued to search for a way down to the dead gorilla. The Negroes had worked earnestly, but they gave up and said it could not be done. Poor devils, they were stark naked in that icy rain; God knows how they lived through it. When they gave up they gave up for good apparently, stood shaking with cold, making no effort to find shelter from the rain. I took off my Burberry raincoat and got seven of them under it with me.

In such proximity to seven naked natives almost all of my senses were considerably oppressed and I was grateful when the rain lessened so that I might put them at a more respectful as well as a more comfortable distance. The others had huddled under an old tree root. All came out and we looked over the situation. We were on the side of a ridge of Mikeno. Where we were there was vegetation and a fair foothold. Below and above us were stretches of sheer rock. Not far from us a little stream fell off the shelf where we were, in a clear fall of 200 feet.

The gorilla was somewhere near the bottom of that fall. The natives insisted that it was impossible to get to the dead animal. To go straight down was impossible. But I felt that there might be a chance to work along sideways in a patch of vegetation until we could get down to a lower level. By working back and forth on the face of the mountain side in this way I hoped to reach the dead gorilla. However, I soon realized that if I wanted to try this somewhat hazardous experiment I should have to lead the way, for the blacks had nothing greater than a few days' wages at stake while I had one of the prizes of a long and expensive expedition. So I swung down on the overhanging roots of a tree and began the descent with the natives following. It took a surprisingly long time for us to get down the 200 feet, and it finally turned out that the route that I took led off to one side where I could not reach the gorilla when I had descended to her level. Twenty or thirty feet farther down I managed to cross to the stream-bed and then went up the stream to the bottom of the falls and from there to where the body lay. Where the stream-bed was steepest, we literally had the water falling on our heads as we scrambled up.

It was a tough job skinning and skeletonizing her. In the first place, I was tired and she was heavy, and in the second place if she was turned over with anything but the utmost care she was likely to roll off down into the chasm below. Nor could I get much assistance from the boys, for there was only room enough for a man or two to help. However, in some

manner we managed a satisfactory job in everything but one particular. The camera boy had come down but the tripod carrier never appeared. If it had been an ordinary camera the loss of the tripod would have made little difference, but it was the moving-picture camera, and a moving-picture camera without a tripod is useless.

It was well past mid-afternoon when the skin and bones were ready to move to camp.

As I worked I had kept wondering how we were ever to get up out of the chasm, especially with the added burdens we had acquired. I am still wondering how we did get out. The "human fly" was no more remarkable than those black boys. My heart was in my mouth for an hour watching them work their way up the almost perpendicular wall of that chasm with the skin and skeleton. We got to camp just before dark in a pouring rain, and I am free to confess that during the last hour I several times doubted if I should get in. It was beyond doubt the toughest day I ever spent. Never again—not for all the gorillas and museums in the world. I spent the next day in camp working on the two specimens—the female and the baby that had been speared—and finally had three beautiful gorilla skins all safe under the fly of my tent. They were so well assorted that they would make a very satisfactory group if I got no more. I had death masks of each and skeletons of the two old ones; but the four-year-old, a vigorous young male, I skinned with infinite care and preserved the entire carcass with formalin and salt—a

precious anatomical record for sculptural and taxidermic use.

The gun boys and guides came the following morning and said they were going home. It took an hour, money, and many promises to make them change their minds. Heaven knows I did not blame them. I would not do what they had done for money.

However, I did not start again. Although I had worked one whole day on the last two gorillas I had some things still to do and I felt that with enough material on hand for a good group even if I got no more I could go a bit easier. So I stayed in camp another day and planned a gorilla hunt for the moving-picture camera. On the side hills where we had been hunting there was no possible hope of using a camera so I told the boys if they took me in any such places again I would annihilate them. Not only would it be useless for the camera but I felt that I couldn't stand another such trip myself. So they promised me an easier route, and equipped with photographic outfit we started off in the direction of the Saddle between Mikeno and Karisimbi. It seemed a very stiff climb to me in the beginning, but I have learned since that it was chiefly because of my extreme weakness. Before I had been out an hour I was sorely tempted to return to camp and give it up; but we came upon a fresh trail of a band of gorillas which for some reason or other the guides followed only a short distance, continuing on in the same general direction in which we had started, without any en-

couragement, until it seemed that we had gone to the crest of the Saddle. There, as the result of a conference between the guides, we started in a southerly direction intending to work in a roundabout way back to camp. Camp was the only thing that I was interested in, for at this time I was practically "done."

Ten minutes later the guides ducked, and crouching, came back and fell in behind me. I took the gun from the bearer, and looking over the tops of the greenery of a little rise in front of us I saw a spot of black fur perhaps fifty yards ahead. As I crouched, waiting for a better view, the animal I was watching climbed up on a nearly horizontal branch of a tree looking back in my direction. In the meantime, the motion-picture camera had been brought to my side. I raised it carefully, put it in position, and all this time another larger gorilla was making the ascent of the horizontal branch of the tree. It was apparently an old mother and her two-year-old baby. Almost before I knew it I was turning the crank of the camera on two gorillas in full view with a beautiful setting behind them. I do not think at the time that I appreciated the fact that I was doing a thing that had never been done before. As I ground away, a second baby came scrambling up a near-by tree. The baby seemed very much interested in the operation. The mother professed indifference and a certain amount of boredom and after a bit pretended to lie down on one arm and go to sleep. The babies, one of them at least, seemed to be amused. He would

stand up, fold his arms and slap them against his breast, which suggested uproarious laughter on his part.

When I had turned off about one hundred feet with my heart in my mouth for fear the thing would come to an end too soon, I realized that I had as much of that particular subject as I wanted, there being no great amount of movement. So I changed the two-inch lens for the six-inch lens in order to make a "close-up." When I had taken about three hundred feet I felt that I would like a change of scene; so with my hand on the camera I stood up straight and tried to start a conversation with them. They all bolted.

It was amazing what an effect that minute or two of experience had on me physically. I forgot my weariness and took up the trail. For the next hour we followed them, getting glimpses of them frequently. There were probably ten or twelve in the band; but never again did I get the opportunity to photograph them—just little glimpses of black fur dodging about through the greenery. At one time with my glasses I watched them across a ravine for a considerable time. The old female was lying down on her back yawning and stretching, but she was too far away for a photograph. So finally, feeling that I had about all I could expect from that band, I picked out one that I thought to be an immature male. I shot and killed it and found, much to my regret, that it was a female. As it turned out, however, she was such a splendid large specimen that the feeling of regret was

considerably lessened. This female had a baby which was hustled off by the rest of the band. The baby was crying piteously as it went.

This, added to the specimens on hand, brought the material for the group to one old male, two females, and a young male of about four years of age.

That night as I came into camp my mind went back to a certain day eleven years before when I was hunting lions on the Uasin Gishu Plateau with a moving-picture camera. A most wonderful opportunity had then been given me. Full in front of me the native hunters had drawn a lion's charge and killed the lion with their spears. But the opportunity had been as short-lived as it was magnificent, and the kind of camera I had then could not be handled that quickly. As I walked back to camp that night, I was determined to make a naturalist's moving-picture camera that would prevent my missing such a chance if ever such a one came my way again. From 1910 to 1916 I worked on this camera whenever I had a minute to spare. By 1917 I had the pleasure of knowing that it was used on observation planes destined for the battlefields of France. I had myself never had a chance to try my invention, except experimentally, until this trip to Africa. On this expedition I had brought two—a large one for panorama work and a smaller one nicknamed "the Gorilla" for animal work. "The Gorilla" had taken 300 feet of film of the animal that had heretofore never been taken alive in its native wilds by any camera, still or moving. Few things have given me greater satisfac-

tion than the realization that the failure of 1910 had led directly to the success of 1921.

To make assurance doubly sure, as night came on I had a fire made in the door of my tent and comforted by its warmth I took a little piece of the end of the film and developed it. It was all right. I took another sample from the middle. It, too, came out strong. I was satisfied—more satisfied than a man ever should be—but I revelled in the feeling.

CHAPTER XIII

THE LONE MALE OF KARISIMBI

BY NOVEMBER 14th, I felt about as happy and about as unhappy as I ever have in my life. I felt exceedingly well about the success of my gorilla hunts. I had four fine specimens for the group which I intended to mount for the American Museum of Natural History in New York, and I had several hundred feet of moving-picture film of live gorillas in their native forests—the first photographs of live wild gorillas ever taken. I also had the fever and that was what I was unhappy about. It was not only uncomfortable but it also threatened to interfere seriously with my plans and to put me in an embarrassing position with the rest of the party. Mr. and Mrs. Bradley and Miss Miller were camped at Kissenyi two days' march away. It had been agreed that I should investigate the gorillas alone first, but it was not contemplated that I get sick during the investigation and not be ready to provide hunting for them. They had come all the way to Central Africa to hunt gorillas and the obligation rested on me to see that they had that experience. I was afraid that if I did not get them up into the gorilla mountains quickly, I might not be in shape to fulfil this obligation and pleasure. So I sent a rather

urgent message that they come up to my camp. Solicitation for my health and keenness for the hunt led Bradley and the two ladies to make the two days' march in one.

This taking ladies to hunt gorillas had caused a certain amount of adverse comment of two kinds. The uninitiated in African hunting censored me for leading the ladies into such terrible dangers. The initiated, or rather some of them, were a little irritated with me because if I showed that ladies with no previous hunting experience could hunt gorillas, elephants, and lions, much of the heroics which have attached to African big-game hunting would begin to wane. As a naturalist interested in preserving African wild life, I was glad to do anything that might make killing animals less attractive.

I had never been in gorilla country before this trip, but I had started in with the firm conviction that hunting gorillas was not dangerous, or, of course, I should not have taken the two ladies to hunt them. My experiences proved my theory even more thoroughly than I had expected. Consequently, when the ladies arrived I was prepared to take them after gorillas without the slightest misgivings. After a day of rest at the camp from which I had hunted, we moved our base a thousand feet higher up (to about 10,000 feet above sea level) to the Saddle between the two mountains, Mikeno and Karisimbi. We had two good-sized tents, one for Mrs. Bradley and Miss Miller and the other for Bradley and me. We had a fly also for a dining tent. These arrange-

ments were quite comfortable except for the cold. It was about 45 degrees Fahrenheit at night at the Saddle Camp. There was an old five-gallon metal cask with holes in it which when filled with coals made

A map showing the location of the three mountains, Mikeno, Karisimbi, and Visoke, on whose slopes the gorillas live. These three peaks are to be reserved as a sanctuary where further studies of the gorilla may be made

a fair stove for the women's tent, but the men's tent and the mess tent gave one very little feeling of the tropics, in spite of the fact that we were very near the equator. But if we were cold our plight was not to be compared to the condition of the porters, gun-bearers, and guides. They had little or no clothing

and they spent the night in hovels which they constructed in various places around camp, the chief characteristic of which was a limited space which insured crowding and a roof which would keep off the rain.

The first day after we reached the Saddle Camp we went on a fruitless hunt up and down the slopes of Karisimbi. With the guides cutting a path as they go, a party does not cover a great deal of distance in a day. Nor is there any need for fast going, for the gorilla does not range far, nor even when pursued does he go fast. On the other hand, even after the guides have cut a "path" the going is sufficiently difficult underfoot and so precipitous in these mountains that a march of five or six miles is a fair day's work, especially for a sick man. We saw no fresh signs of gorilla on this first ladies' hunt. We did run on to a buffalo trail, but we did not come up to the animals, probably because of the fact that I was not very keen about it as it was very dense country and not at all the sort of place in which to hunt buffalo with ladies.

The next day we went up the slopes of Karisimbi farther to the west. We had not been out of camp more than an hour and a half when I stopped to make a panoramic motion picture of the wonderfully beautiful view of the surrounding country. Just as I was about to begin cranking, a signal from the guides who had gone on ahead resulted in our going quickly to them where they pointed out moving bushes a little distance down the slope. We followed the guides rapidly for a short distance, down on our hands and

knees and under a mass of dense vegetation, and as we got to our feet on the other side we saw a huge old silver back moving along in plain sight about twenty-five yards away.

If the gorilla were as aggressive an animal as he has been credited with being, this old fellow should have charged that twenty-five yards in a few seconds and given us a chance to defend the ladies heroically from threatened death. However, he didn't know his part, for it was evident that his one idea was to go away. His departure was interrupted by a shot from Bradley which hit him in the neck. He fell like a log. While we were congratulating Bradley and before we had started for the prize, one of the guides suddenly called our attention to the fact that the gorilla was moving off. He disappeared from view. We followed, scrambling along as rapidly as possible but not making very fast progress. But our time was as good as the gorilla's, for we had glimpses of him as he went down and up the other side of a gully to the crest of a ridge beyond. As he reached the top of this ridge he came into full view perhaps fifty yards from where we were. Bradley fired again. This shot sent him rolling down the slope, stone dead. He lodged against the base of an old tree. He was a fine specimen, a huge creature weighing three hundred and sixty pounds. I believe that he was the big lone male of Karisimbi of which we had been told. He had unquestionably met white men before because at one time he had been badly wounded in the pelvis, leaving a permanent deformation of the pelvic region and a crook in his

spine. Like all of the others he displayed no signs of aggressiveness. He was intent only on getting away. He had not made a single sound at any time.

As he lay at the base of the tree, it took all one's scientific ardour to keep from feeling like a murderer. He was a magnificent creature with the face of an amiable giant who would do no harm except perhaps in self-defence or in defense of his friends.

From twenty feet above him on the slope where we settled down with our kit to make pictures, notes, and studies, we had a view of Mikeno and the surrounding country which I then thought, and still remember, as the most beautiful view I have ever seen; and I believe my companions, one and all, quite agree with me. The motion-picture camera was directly behind us up the slope where we had deserted it. It was sent for and a panorama was made from over the body of the dead gorilla. Mikeno was at her best; she had thrown aside her veil of cloud; her whole summit was sharply outlined against the blue of the tropical sky. The warm greens and browns of the moss-covered cliffs suggested a drapery of lovely oriental weave. From the summit well down the wonderful line of the western slope the eye was arrested by old Nyamlagira smouldering lazily and sending her column of smoke and steam to join the hovering cloudbank above—then on again the eye swept over a scene of marvellous opalescent colour in which were dimly seen distant mountain ranges, suggestions of shimmering lakes, and mysterious forests—then around to Chaninagongo, looming dark

and massive in the middle ground, smouldering, too, but less demonstrative than her sister, Nyamlagira. Lying almost at the foot of Chaninagongo and to the south, glistened in the tropical sun the loveliest of African inland waters—Lake Kivu. Behind us, upward toward the summit of Karisimbi and adown the slopes in front, there stretched a primeval forest of marvellous beauty—in character unlike anything else I know—a veritable fairyland—and at our feet lay dead one of its great giants.

I realized that the search for a background and a setting for the gorilla group was ended. We will reproduce this scene on canvas as a background for the gorillas when they are mounted in the Museum. The foreground will be a reproduction of the old dead tree with its wealth of vegetation in the midst of which the old gorilla died. Of course, it is regrettable that we had no painter with us at the time. To get one there means another long journey from New York to Central Africa, yet it will be worth it if the thousands who visit the Museum get even a faint degree of the satisfaction from the setting of the group that we got from this view in the gorilla country.

I felt then, and even more so now, that that morning represented the high spot in my African experiences. In the midst of a forest, a land of beauty, we overlooked a scene incomparable, a scene of a world in the making, while our great primitive cousin, whose sanctuary we had invaded, lay dead at our feet. That was the sad note. To me the source of greatest joy was the fact that here, at the culmination of a

dream of thirty years, I was not alone. There were three friends who keenly appreciated all that it meant.

We had made good in our boasted undertaking of taking ladies on a real gorilla hunt, presumably the last word of danger and adventure in the popular mind. Another popular illusion gone to smash! It was adventure full of beauty and charm and hard work, but absolutely without danger.

The gorilla is not dangerous, but he is impressive. I have taken a tape and measured around the chests of two good-sized men standing back to back. The two together measured three inches less than Bradley's gorilla alone. His chest unexpanded was 62 inches. He weighed about as much as two men, 360 pounds.

Although not so tall as Dempsey, the gorilla weighs nearly twice as much, and his arms are longer and more powerful. But his legs, on the other hand, are much shorter. Unquestionably a well-developed man can travel both faster and farther than a gorilla.

One can visualize something of his size by a comparison of his measurements with those of Jack Dempsey.

	GORILLA	DEMPSEY
Height	5 ft. 7½ in.	6 ft. 1 in.
Weight	360 lbs.	188 lbs.
Chest	62 in.	42 in.
Upper arm	18 in.	16¼ in.
Reach	97 in.	74 in.
Calf	15¾ in.	15¼ in.

The next morning we decided to return to our base camp on Mikeno, a thousand feet lower down. I think we all wished to stay at the Saddle Camp longer because of the marvellous beauty of the place, but our guides and porters complained so bitterly, and I think so justly, against the cold that a decision was made on their account rather than our own. The guides, however, were not content with their return to the Mikeno Camp, but insisted on quitting their jobs entirely. While this was a disarrangement of our plans, my appreciation for all they had done and sympathy with their just complaints caused me to pay them off and let them go. The following day they returned, a very dejected and penitent lot, and their explanation for their return was interesting, to say the least. When they reached home their sultan had asked them if my work was finished and if they had stayed until I no longer required them. They had admitted that I had given my consent unwillingly. He had told them that they must come back to me and stay until the work was finished and that they must bring to him a report from me of complete satisfaction.

Bradley and I remained two days longer, and these guides were on the job every minute. It was a demonstration of honour and manliness on the part of the sultan that I have rarely seen equalled in a savage.

Mrs. Bradley and Miss Miller went to the Mission Camp, but Bradley and I remained for two days of photographing and the cleaning up and the packing of the gorilla material. The third and last day we made the descent of the mountain, sending the por-

ters ahead with their loads to Burunga, but retaining our guides for another hunt in the bamboos.

We had descended well down toward the lower level of the bamboo when the guide led us along a cattle trail up a ridge of Mikeno. We came to a track of a single old male gorilla on this trail, which, after we had followed it for a half hour, had been joined by others. Ultimately we were on a perfectly fresh trail of a whole band. The purpose of the hunt was to get more pictures and to add to our series one more specimen, a young male if possible. At this time I had not seen more than one male with a gorilla band and I felt that a group of two old males, two females, and a youngster of four years would be misleading; that if I used them I would have to use one of the old males as an intruder in the family group. I had to explain to my gun-bearer that we must go slowly because I did not want to come up with the gorillas in jungle so dense that I could not photograph them; and that we must try to manage not to disturb them until they had come to more open country where the chance for observation would be better. We were near the edge of a ravine the opposite slope of which was cleared of bamboo and bush. I suggested to him that if we could possibly see them in a place like that, it would enable us to do the things that we wanted to do. Not that I actually hoped for any such luck; but as a matter of fact, fifteen minutes later we heard the bark of a gorilla. Peeping through the bush we saw the entire band on that opposite slope, all of them in full

view. There were at least three old males, I think four, and perhaps a dozen females and youngsters. They, of course, had seen us. They were making off toward the crest of the opposite slope as fast as possible.

My first thought was along these lines:

"Here is a perfectly peaceful family group including three or four males. I could use my two males without apologies. There is really no necessity for killing another animal."

So the guns were put behind and the camera pushed forward and we had the extreme satisfaction of seeing that band of gorillas disappear over the crest of the opposite ridge none the worse for having met with white men that morning. It was a wonderful finish to a wonderful gorilla hunt. We went on to Burunga for the night and the next day we were at the Mission by noon where we found Thanksgiving dinner waiting for us. The chief mission of the expedition had been successfully culminated, and all of us were together again just in time for a real Thanksgiving.

CHAPTER XIV

IS THE GORILLA ALMOST A MAN?

WHEN Herbert Bradley and I started down from Mt. Mikeno to join the ladies of our party at the Mission of the White Friars we had the skeletons, skins, and measurements of four adult gorillas and the mummified carcass and skin of a baby. I had made death masks of them all and likewise some plaster casts of their feet and hands. I also had 300 or 400 feet of film showing wild gorillas in action, and some general observations of the gorilla's habits in the mountains of the Lake Kivu region on the eastern border of the Belgian Congo in Central Africa. I had the material for which I had come to Africa—material sufficient to make a correct group of gorillas for the proposed Roosevelt African Hall of the Museum of Natural History in New York—but I also had a great deal more, a vision of how to study this animal which is man's nearest relative.

As soon as you have anything to do with the gorilla the fascination of studying him begins to grow on you and you instinctively begin to speak of the gorilla as "he" in a human sense, for he is obviously as well as scientifically akin to man.

I have taken some pains in describing my adventures with the gorillas of Mikeno to show that they

were not ferocious. I do not believe that they ever are ferocious, nor do I believe that they will ever attack man except when hard pressed and in self-defence. I think I can also explain why the gorilla has his aggressive reputation. I am going to quote one of Paul du Chaillu's adventures* with gorillas and in the quotation put in brackets what Du Chaillu felt, leaving outside the brackets what the gorilla did. If you read the tale as Du Chaillu wrote it, it gives an impression that the gorilla is a terrible animal. If you read merely what the gorilla did, you will see that he did nothing that a domestic dog might not have done under the same circumstances.

Then the underbrush swayed rapidly just ahead, and presently before us stood an immense male gorilla. He had gone through the jungle on his all-fours; but when he saw our party he erected himself and looked us [boldly] in the face. He stood about a dozen yards from us [and was a sight I think never to forget]. Nearly six feet high (he proved *two inches shorter*), with immense body, huge chest, and great muscular arms, with [fiercely glaring] large deep gray eyes [and a hellish expression of face, which seemed to me like some nightmare vision]: thus stood before us this king of the African forests.

He was not afraid of us. He stood there, and beat his breast with his huge fists till it resounded like an immense bass-drum [which is their mode of offering defiance]; meantime giving vent to roar after roar. . . .

[His eyes began to flash fiercer fire as] we stood motionless on the defensive, and the crest of short hair which stands on his forehead began to twitch rapidly up and down, while his powerful teeth (fangs) were shown as he again sent forth a thunderous roar. [And now truly he reminded me of nothing but some

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Reprinted through courtesy of Harper & Bros., publishers of Du Chaillu's book, "Equatorial Africa."

hellish dream creature—a being of that hideous order, half man, half beast, which we find pictured by old artists in some representations of the infernal regions.] He advanced a few steps—then stopped to utter that [hideous] roar again—advanced again, and finally stopped when at a distance of about six yards from us. And here, as he began another of his roars and beating his breast [in rage], we fired, and killed him.

With a groan [which had something terribly human in it, and yet was full of brutishness], it fell forward on its face. The body shook convulsively for a few minutes, the limbs moved about in a struggling way, and then all was quiet—death had done its work, and I had leisure to examine the huge body. It proved to be *five feet eight inches high*, and the muscular development of the arms and breast showed what immense strength it had possessed.

These facts are no doubt accurate. Du Chaillu and his men pursued a gorilla in the forest. When they came too close he roared at them. I have seen little monkeys scold an intruder in similar fashion. His face twitched and he beat his breast. My motion picture shows a gorilla beating her breast when not at all mad. The gorilla advanced on them not in a ferocious rush but hesitatingly a few steps at a time. They shot it.

I don't blame Du Chaillu for feeling the way he did, for, under the circumstances in which he hunted the gorilla, most people would have had even much worse feelings than he had. Then, too, when Du Chaillu wrote, tales of African exploration were under an unwholesome pressure comparable to that to which African motion pictures are being subjected to-day. I have it on reliable authority that Du Chaillu was twice requested to revise his manu-

script before his publishers considered it exciting enough to be of general interest. All I want to point out is that the gorilla should be judged by what he does, not by how the people that hunt him feel.

And it is of more importance to judge the gorilla correctly than any other animal for he is unquestionably the nearest akin to man. Most scientists agree that man and the gorilla had common or at any rate similar ancestors. Since that time man has passed through the dawn of intelligence and developed the power to reason and to speak. But how he developed these powers no one knows. The gorilla has not these powers, but he has so many other likenesses to man that there is no telling how near he is to the dawn of intelligence.

In the whole doctrine of evolution there is no one subject more interesting or likely to be more fruitful to study than the gorilla. He presents most important opportunities to the students of comparative anatomy, to the psychologists, to the many kinds of specialists in medicine, not to mention the students of natural history.

It is very commonly stated, in the Century Dictionary and Cyclopedia, for example, that the gorilla "lives mostly in trees." Unquestionably this is true of the chimpanzee but I do not think it true of the gorilla. I believe that he has nearly passed out of the arboreal phase of life and is perhaps entering the upright phase and that he is the only animal except man that has achieved this distinction. To stand erect and balanced, an animal needs heels. The plaster

cast of the gorilla's foot shown in the accompanying illustration is ocular evidence of what science has long known—that the gorilla has developed a heel. Moreover, the scientists who studied the body of John Daniel, the young captive gorilla that died in New York, discovered that, unlike any other animal, the gorilla has the same full complement of foot muscles which enables man to walk upright. The gorillas I saw in Africa always touched both their feet and hands to the ground in running but most of the weight was on their feet. Their legs are short, their arms long, and they carry the body at an angle of 45 degrees forward. They do not, however, put their hands down flat and rest their full weight on them. They seem to be evolving toward a two-legged animal. And if they spent most of their time in trees they would not have developed heels and leg muscles for walking upright on the ground.

Not only has the gorilla developed a heel, but his big toe is much nearer like man's than that of any other animal. This may seem a small matter, but a big toe that turns out from the foot as a thumb does from the hand can grasp branches and is useful in climbing. A big toe that is parallel with the other toes is useful for walking but not for climbing.

But the gorilla has not lost all his arboreal characteristics by any means. The length, size, and strength of his arms are evidence of the tree-climbing habits of his ancestors. I know that a gorilla can now climb with more ease than the average man. But I only once saw gorillas in trees and that was

when I was taking the moving picture of a mother and two youngsters, and an active man could have walked up the inclined trees these gorillas were on about as easily as they did. Nor did I see any evidences of their having been in trees. The German, Eduard Reichenow, who observed gorillas in this same area, agrees that the gorilla is seldom in trees:

> While travelling, both kinds of apes (the gorilla and the chimpanzee) move on the ground; yet the gorilla is much more a stranger to tree living than the chimpanzee. . . . If the gorilla climbs a tree in search of food, he again climbs down the same trunk. Also at the approach of danger he is not capable of swinging himself from tree to tree as the chimpanzee does.

The hand of the gorilla is as interesting to me as his foot. If you look at the illustration of the plaster cast you will see that it looks much like a man's, fingernails and all. You will see that the fingers are bent over. When running he puts his knuckles on the ground. It is a peculiarity of the gorilla that when his arms are extended his fingers are always bent over. He can't straighten them out except when his wrist is bent. I can take the hand of the mummified baby gorilla when its wrist is bent and put it over a stick and then straighten his wrist and his fingers will close over the stick so that I can lift him off the ground and hang him up in this fashion. I suppose that this peculiar characteristic is a legacy of his arboreal life which has not left him even in all the years he has been developing heels, muscles, and toes which are good for ground work only.

I am certain that these Central African gorillas have practically abandoned arboreal habits. Whether the gorillas of the lower country of the west coast have done so likewise I do not know from personal observation. Du Chaillu reported that they did not climb for food nor did they make their nests in trees in that region.

It has been so commonly reported, however, that the Century Dictionary states that "gorillas make a sleeping place like a hammock connecting the thickly leafed part of a tree by means of the long, tough, slender stems of parasitic plants, and line it with the broad dried fronds of palms or with long grass. This hammock-like abode is constructed at different heights from ten to forty feet from the ground."

I cannot help believing that this report arises from a confusion with the chimpanzee habits. The chimpanzee is not strong enough to fight a leopard. Consequently, he has to sleep out of reach of this foe. The gorilla, on the other hand, has no foe but man. No flesh-eating animal in his territory is large enough to harm him. The gorilla is a vegetarian, so he kills no animals for food, and he has not progressed sufficiently along the paths of man to enjoy killing as a sport. He lives in amity with the elephants, buffalo, and all the wild creatures of his neighbourhood, and in the Mikeno region the natives drive their cattle into the gorilla's mountains in the dry season of the year without molestation.

Altogether, then, as the gorilla has no enemies, he has no need to fashion himself a bed out of harm's

way. All the gorilla beds I saw were on the ground. They consisted of a pile of leaves, about what the long arms of a gorilla could pull together without moving. I saw no signs of their occupying these hastily constructed sleeping places more than once.

The gorilla makes no abode, has no clothes, uses no tools, unless grasping a stick may indicate the beginnings of such an idea. It is still before the dawn of intelligence with him. Yet scientists tell me that he has the palate and muscles that enable man to talk. In spite of Mr. Garner the gorilla cannot talk, but no one knows how near to it he is. Probably he is a very long way from speech. Of course, a parrot can be taught to talk, but a parrot has no brains to speak of, so that his talking is of no significance. But recent studies of the brain of John Daniel seem to place his brain about on a par with that of a two-year-old child. Now a two-year-old child can both talk and think. If the gorilla with his child's brain could learn to use his voice even like a parrot, we should have come very near to having a contemporaneous "missing link." This, of course, is very unlikely to happen and it is not necessary, for science can make deductions from the gorilla's brain, muscle, habits, etc., which will enable us to understand more of the gorilla's significance for evolution without such a spectacular event as his acquiring speech. I mention such a thing merely as an unscientific way of trying to dramatize the importance of the study of the gorilla.

Of course it does not follow that because the

gorilla's palate and muscles are like man's that he will be able to talk or pass out of the barking or roaring phase. The gorilla has what might be called "roaring pouches" that extend down the side of his neck. It is an interesting fact that there is evidence of these same pouches in man, although they are nearly atrophied from long disuse. It seems, therefore, that even if the gorilla does not learn man's speech, man at one time used the gorilla's roar or one of his own.

Man differs from most animals in the amount of variation in the different members of the species. The skull measurements of half-a-dozen lions, for example, will be much more nearly uniform than the skulls of half-a-dozen men. In this particular the gorilla is like man. Their skulls show great variation. The gorilla skulls I brought back will exemplify this. The death masks of these gorillas show another interesting thing which I never noticed until I put the masks of the animals shot on Mt. Mikeno in one group and those shot on Mt. Karisimbi in another. The male and female of Mikeno resemble each other more nearly than either of them do any of the Karisimbi gorillas. Likewise the three Karisimbi gorillas have features more alike than any of them are like either of the Mikeno faces. Whether these are family resemblances or whether they arise from geography, which seems doubtful, as the mountains merge in a saddle at between 10,000 and 11,000 feet, or whether it is accidental I do not know. But the fact suggests a line of study.

I did not see a gorilla in infancy, but there are two interesting accounts of travellers in this region who have seen them. Reichenow says:

I was successful on the hunt to capture an animal only a few days old. It weighed only 2 kg., therefore considerably less than a newborn human child, while an old gorilla considerably exceeds an outgrown man in weight. The whole body of the little gorilla was sparsely covered with hair so that it almost appeared naked; only on the crown of its head there arose straight up a tuft of long brown hairs. This manner of hair growth gave the little ape a particularly human appearance.

When one saw the little being, which flourished beautifully at the breast of a Negro nurse, in its helplessness, one had to become convinced that the gorilla nursling needs the greatest care and attention on the part of its mother. On the soft high bed the mother can well cover with her body the tiny young one which is in great need of warmth, without its running a chance of being crushed by her heavy body.

Late in 1919 I received a letter from an English hunter, Mr. C. D. Foster, which contained the following paragraphs concerning a gorilla hunt on Mt. Mikeno:

I noticed that the nearest gorilla was holding a very small one in her arms. I shot and wounded her and she came toward me still holding the young one. I shot again and she dropped. The rest, by this time, were just disappearing, and having shot two good specimens I did not try to follow them.

I approached the female gorilla and found her lying stomach down resting on her elbows and still clasping the young one. She was evidently nearly dead and I took a photo of her in this position. I then waited for her to die which she did within a few minutes, so I went up to her and took away the baby gorilla which was quite uninjured and apparently was not more than 24 hours old. . . . The baby gorilla (a female) is now two

months old and in the best of health and weighs nine pounds. She has cut six teeth and the only ailment she has had was a cold which she evidently caught from me and which she recovered from very quickly. She does not show any signs of walking yet and up till now I have fed her entirely on cow's and goat's milk and occasionally, when fresh milk was unobtainable, on canned milk.

P. S. Since writing the above, which has been unavoidably delayed in mailing, the young one which I mentioned has died; at the time of her death she was just over three months old.

One of the most interesting facts in this account of Foster's is the fact that the baby gorilla caught cold from him. Animals usually do not catch man's diseases. Seemingly the gorilla is near enough man to contract at least some of them. Probably he is not immunized against any contagious diseases. This free-of-disease state, if it exists, will make him a unique pathological study. And certainly the gorilla differs from other animals in his freedom from parasitical disease. I did not have an opportunity to study him with a microscope, but he is the only wild animal in Africa that I have ever skinned and cut up for scientific purposes that had no visible signs of parasites on him or in him.

Reichenow also has made some deductions about the family life of gorillas in the Mikeno region which are interesting. "The sleeping plans of the members of a gorilla company," he says, "do not lie irregularly near each other but we find them joined in groups of two, three, or four, which lets us clearly recognize that within the herd there exists a division according to families. The nests of a family lie close to each other

and are from eight to fifteen meters away from the neighbouring group, so that the various groups seemed closed off from each other by the thick riot of plants, like various dwellings. From the size of the nests we see that always only two of them belong to adult animals; if there are more nests present, these are always smaller and therefore belong to the half-grown young. From this observation we get the noteworthy fact that the gorilla lives in monogamy."

I cannot say that my observations corroborate this deduction. In one of the bands I saw there were three adult males. They might under his theory have been heads of three families. But in the other band there was but one male and several females. The extra females may have been spinster aunts of the family, but on the other hand, it might just as well have been a case of polygamy. The truth is that people know little about the habits of the gorilla. Really to know about an animal requires long and intimate study. Comparatively few people have even shot gorillas. Gorilla skeletons, even, have not been common for study like those of other animals. The avidity with which the doctors of the College of Physicians and Surgeons in New York seized upon the body of John Daniel shows both how rare and how important the opportunity to study the gorilla is to the science of medicine as well as to that of comparative anatomy. And even less of study has been given the gorilla's living habits than has been devoted to his dead body and bones. Most of the information which man can get of and from this nearest relative

in the animal kingdom is still to be had. But unless some measures are quickly taken to get this information, the opportunity will be lost. The gorilla is on his way to extinction. He is not particularly numerous. He is neither wary nor dangerous. He is an easy and highly prized prey to the "sporting" instinct.

As I travelled down from Mikeno toward the White Friars' Mission the fascinating possibilities of the study of the gorilla and its immense scientific importance filled my mind along with the fear that his extinction would come before adequate study was made. These considerations materially led my mind to the idea of a gorilla sanctuary; and I realized that a better place than the one I had just left could hardly be hoped for. The three mountains, Mikeno, Karisimbi, and Visoke stand up in a triangle by themselves. Their peaks are about four miles apart. On the slopes of these mountains, in the bamboos and in the dense forest, there are several bands of gorillas. I judge that there are between fifty and one hundred animals altogether. In all probability the animals in this region stay on these three mountains. Such is the belief of the natives, and it is a reasonable belief because if they left these peaks they would have to travel very considerable distances to find similar security and food supplies elsewhere. This being true the three peaks can become a gorilla sanctuary by the simple expedient of preventing hunters from invading them.

It has been proved over and over again that animals very quickly learn to remain in places where they are

safe from hunting. Likewise in those places animals soon learn to accept man without fear just as they do other animals. The case of the bears in the Yellowstone Park is known to everyone. At Banff, in the Canadian Rockies, protection has led even so shy an animal as the mountain sheep to accept man enough to be photographed at short distances. Were the gorillas on the three peaks protected I am certain that in a very short time they would become so accustomed to man that they could be studied in their native surroundings in a way that would rapidly produce most interesting and important scientific results.

This sanctuary would not interfere with any other activity in the country. The gorilla range is not fit for agriculture. The natives use it now as a source for firewood and a grazing ground for their cattle. It could continue to be put to these uses as far as the gorillas would be concerned. Elephants, buffaloes, and other animals might flock into the sanctuary so as to become something of a problem, but their numbers could be kept down without disturbing the gorillas' sense of security.

To create this sanctuary would be comparatively easy and inexpensive. I think it would require first of all that the sanctuary be bounded by a road. I do not think it would be necessary to fence the sanctuary for I believe the gorillas would stay inside its limits. The road would be chiefly for police purposes to make it easier to be sure that hunters stayed outside. The policing of the road could be done by

the natives. As the pay of such a policeman is about five cents a day, the maintenance of the force is not a great matter.

Besides the road and the police the sanctuary would need a few trails and a station to consist of a residence for a white director of the sanctuary, living quarters for the scientists, enough servants to keep the station going, and a simple field laboratory. Neither the building nor maintenance for such an institution would be expensive in Central Africa. I know of no other effort of so moderate a size likely to lead to such immediate and valuable scientific results. Moreover, if the study of the gorilla is not made in some such way as this now, it is not likely that it will ever be made at all. If three more gentlemen like the Prince of Sweden go into the Mikeno region there will be no gorillas left there. Gorillas were originally discovered on the west coast and they have been reported at various places across Central Africa from the west coast to the Mikeno region, but in no region are they numerous; and if they should succeed the lion and the elephant as the "correct" thing to shoot, their extinction would be but a matter of a very few years.

On the other hand, a very few years of study by a succession of scientific men from the best institutions would unquestionably produce far-reaching results.

CHAPTER XV

ROOSEVELT AFRICAN HALL—A RECORD FOR THE FUTURE

I HAVE dreamt many dreams. Some of them have been forgotten. Others have taken concrete shape and become pleasing or hateful to me in varying degree. But one especially has dwelt with me through the years, gradually shaping itself into a commanding plan. It has become the inspiration and the unifying purpose of my work; all my efforts during recent years have bent toward the accomplishment of this single objective—the creation of a great African Hall which shall be called Roosevelt African Hall.

I have always been convinced that the new methods of taxidermy are not being used to the full; that, although the taxidermic process has been raised to an artistic plane, a great opportunity still remains for its more significant and comprehensive use in the creation of a great masterpiece of museum exhibition. Then, too, I have been constantly aware of the rapid and disconcerting disappearance of African wild life. And I suppose that those two considerations gave rise to the vision of the culmination of my work in a great museum exhibit, artistically conceived, which should perpetuate the animal life, the native customs, and the scenic beauties of Africa.

When I returned to America in 1911, my mind saturated with the beauty and the wonder of the continent I had left, I was dreaming of African Hall. One year later my ideas were sufficiently defined to be laid before Professor Henry Fairfield Osborn, President of the American Museum of Natural History, who approved my plans and asked that they be presented to the Trustees of the Museum. The plan that I proposed to the Trustees provided for a great hall devoted entirely to Africa, which should put in permanent and artistic form a satisfying record of fast-disappearing fauna and give a comprehensive view of the topography of the continent by means of a series of groups constructed in the best museum technique. Neither in this nor in any other country has such an exhibit been attempted. Not only would the proposed hall preserve a unique record of African wild life, but it would also establish a standard for museum exhibition in the future.

The Trustees approved my plan for immediate execution; the undertaking was to go forward as rapidly as funds were available. One of the old North American mammal halls, rechristened the "elephant studio," because there the mounting of the elephant group was already under way, was retained for my use and there, to crystallize my conception, I made a model of the African Hall. This model represents a great unobstructed hall, in the centre of which stands a statuesque group of four African elephants with a group of rhinos at either end. Both on the ground floor and in the gallery, with windows seeming

to open upon them, are arranged habitat groups of the African fauna with typical accessories and panoramic backgrounds. The long and arduous task of mounting the central elephant group, the first unit for the exhibit which the model sketched in miniature, was interrupted by the war.

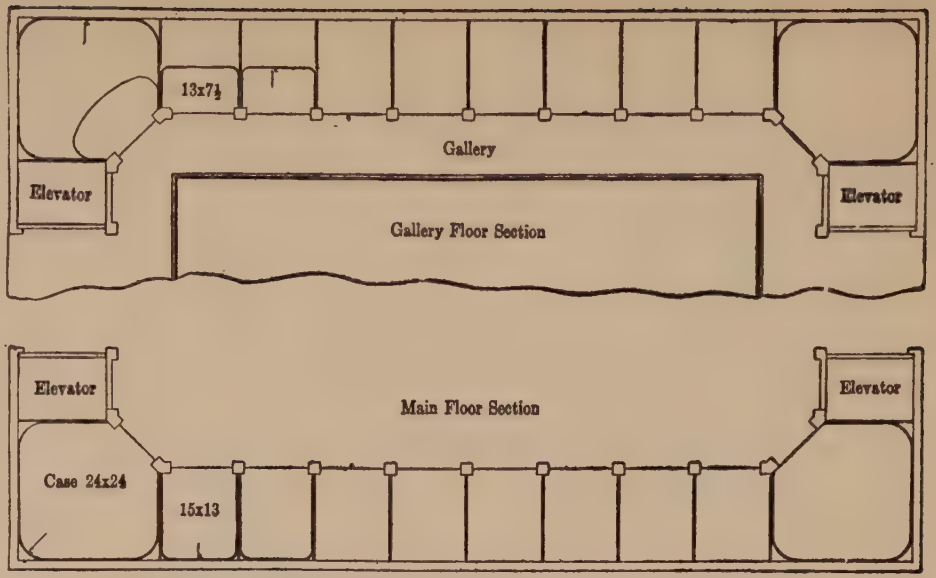
Many of the undertakings that were making long strides toward completion in 1914, to-day stand arrested due to conditions following the war. Only one by one can they fall back to their natural places in the march of progress, and the most urgent must be given place first. African Hall is one of those projects which cannot be delayed. Now or never must it become a reality. Twenty-five years ago, with innumerable specimens at hand, its development would have been an impossibility. Even if a man had had all the animals he wanted from Africa, he could not have made an exhibit of them that would have been either scientific, natural, artistic, or satisfying, for twenty-five years ago the art of taxidermy and of museum exposition of animal life hardly existed. Likewise, in those days much of the information that we had about animals through the tales of explorers, collectors, and other would-be heroes was ninety-five per cent. inaccurate.

Twenty-five years hence the development of such a hall will be equally impossible for the African animals are so rapidly becoming extinct that the proper specimens will not then be available. Even to-day the heads that are reaching London from British East Africa are not up to the old standards. If an

African Hall is to be done at all, it must be done now. And even if it is done now, we must have men to do it who have known Africa for at least a quarter of a century. Africa to-day is a modern Africa, the Africa of the Age of Man. Africa then was still the Africa of the Age of Mammals, a country sufficiently untouched by civilization to give a vivid impression of Africa a hundred years ago. By the time the groups are in place in African Hall, some of the species represented will have disappeared. Naturalists and scientists two hundred years from now will find there the only existent record of some of the animals which to-day we are able to photograph and to study in the forest environment. African Hall will tell the story of jungle peace, a story that is sincere and faithful to the African beasts as I have known them, and it will, I hope, tell that story so convincingly that the traditions of jungle horrors and impenetrable forests may be obliterated.

With all haste, when the war was over, I turned again to African Hall—to Roosevelt African Hall, for naturally after the death of that great American who so deeply desired to bring to the world a knowledge of beautiful Africa and who had himself shot the old cow for the elephant group, we gave the proposed hall his name. The thought that my greatest undertaking was to stand as a memorial to Theodore Roosevelt doubled my incentive. I am giving the best there is in me to make Roosevelt African Hall worthy of the name it bears.

The structure itself will be of imposing dimensions.



Plan of the main floor and gallery of Roosevelt African Hall

A spacious open hall will occupy the central portion of the building. As I have planned it, the floor measurement of this great open space is sixty by one hundred and fifty-two feet; the height to the gallery at the sides is seventeen feet and that over the centre to the ceiling, thirty feet. Its floor space will be encroached upon only at the corners by the elevators; that is, the actual open floor space without columns or any obstruction whatever will be sixty by one hundred and sixteen feet. In the centre of this large hall will stand the group of four African elephants treated in statuesque fashion, mounted on a four-foot base with no covering of glass. At one end of the elephants, the group of black rhinoceros will be placed; at the other end, the white rhinoceros. As a result of late developments in the technique of taxidermy, we are able to treat these pachyderms so that they will not suffer because of lack of protection under glass. Changing atmospheric conditions will have no effect upon them and they can receive essentially the care given to bronzes.

Since the elephant is the largest land mammal in the world to-day and one of the most splendid of all animals of the past or present, and especially since it is typical of Africa, it is fitting that the elephant should dominate this hall. Except for bronzes at either end facing the main entrances, there will be nothing in the central open space to detract from the majesty of the elephants and the lumbering bulk of the rhinos. Visitors, pausing to study the elephants, may look out on either side as though through

open windows into an African out-of-doors, for the other great animals of the continent in their natural environment of forest, plain, river, or mountain, will surround the central hall. The position of these habitat groups in a kind of annex has a double advantage: it permits them to be carefully protected against atmospheric conditions and prevents any infringement upon the measurements of the hall proper. There will be forty of these realistic groups —twenty viewed from the main floor and twenty more, similarly executed, but displaying the smaller animals, viewed from the gallery.

The forty canvases used as backgrounds will be painted by the best artists available. Each will be an accurate portrayal of a definite type of African scenery, usually showing some feature of importance —Mt. Kenia on the equator, the waterless plains of Somaliland, or the gorilla forests of the Kivu country. Together they will give a comprehensive idea of the geographical aspect of Africa from the Mediterranean on the north to Table Mountain at Cape Town, and from the east coast to the west coast.

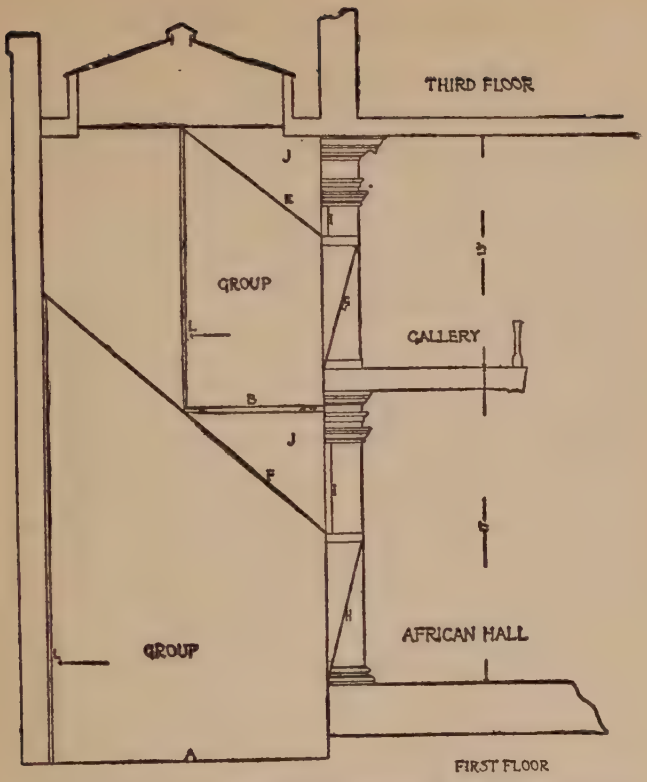
The mounted specimens in the foreground will combine to represent in the most comprehensive way the animal life of the continent. These groups will be composite—that is, as many species will be associated in each of them as is consistent with scientific fact. For example, one of the large corner groups will represent a scene on the equatorial river Tana, showing perhaps all told a dozen species in their natural surroundings with stories of the ani-

mals and a correct representation of the flora. In the foreground on a sandbar in the river will be a group of hippos; across the stream and merging into the painted background, a group of impalla come down to water; in the trees and on the sandbars of the farther bank two species of monkeys common to the region; a crocodile and turtles basking in the sun near the hippos, and a few characteristic birds in the trees.

Another of these large corner groups will be a scene of the plains, a rock *kopje* with characteristic animals such as the klipspringer, hyrax, Chanler's reedbuck, and baboons on the rocks, the background leading off across the plain showing a herd of plains animals—and the adjoining group continuing the story by showing more of the species of the plains. The third of the large corner groups will represent a Congo forest scene with the okapi and chimpanzee perhaps, and such animals as may be associated legitimately with the okapi. The fourth group will be a desert scene, a water hole with a giraffe drinking and other animals standing by, awaiting their turn.

In these four corner groups we can present the four important physical features of African game country, and they can be supplemented, of course, by the scenes in the thirty-six other groups. The large groups, however, give opportunity for particularly striking scenic effects.

Lack of care in museum exhibition has come about in part at least because of the lack of permanence in the specimens exhibited. Now that we have reached a point in the development of taxidermy technique



A Section of the "Annex" Containing the Habitat Groups

(A) Floor of group space, sunk four feet below the level of hall floor to permit of various elevations of foregroup in group. (B) Floor of gallery group case. (E) Glass roof of gallery group case. (F) Glass roof of main floor group case.
(G) Glass in front of gallery case set at angle to cut reflections. (H) Glass in main floor case. (I) Space occupied by bronze panels. (J) Space above gallery groups for artificial lighting purposes. (L) Plane of painted background.

where we can say without reservation that our preparations are permanent, permanent to a degree only dreamed of within the last twenty years, we feel justified in taking extreme measures to insure the future care and preservation of these preparations. The elephants and rhinos can be made as permanent as bronze for endurance under all conditions, but the other animal groups with their backgrounds and with accessories necessarily made largely of wax cannot be thus exposed. That they shall not suffer from excessive light and from changing atmospheric conditions, they will be placed in two great alleyways on either side of, but practically outside, the hall, hermetically sealed off from the hall proper and also from the outside atmosphere. Thus each group will be absolutely protected from changes in temperature and humidity. Each group will be in fact within an individual compartment, and allowed to "breathe" only the air of the alleyway, which is filtered and dried and kept at a uniform temperature throughout the year. Artificial light will be used for these groups.

The amount of light required on them will be relatively small because of the fact that they are to be viewed from a relatively dark central hall. We shall be looking from the hall into the source of light rather than from the source of light outward. Also, reflections can be reduced to a minimum and practically eliminated, owing to the fact that the groups are the source of illumination, by having the glass in the front of the case inclined at such an angle that it reflects only the dark floor.

In addition to the forty groups, twenty-four bas-relief panels in bronze (six by eleven feet each) are planned as a frieze just above the floor groups and along the balcony to form a series around the entire lower floor, becoming a part of the architectural decoration of the hall. The sculpture of each panel will tell the story of some native tribe and its relations to the animal life of Africa.

For instance, one panel will show a Dorobo family, the man skinning a dead antelope brought in from the forest to his hut, where are his wife and babies and two hunting dogs, their only domestic animals. A further interest in animal life will be revealed in the presence of the dead antelope as it is a source of food and clothing, for these people live entirely by hunting. Another panel may show a group in Somaliland with camels, sheep, goats, cattle, and ponies at a water hole, domestic beasts furnishing the interest in animal life. Still another panel completing the Somali story will represent a group of Midgans in some characteristic hunting scene. While each of these panels should be a careful and scientifically accurate study of the people and their customs, accurate in detail as to clothing, ornaments, and weapons, the theme running through the whole series should be the relationship of the people to animal life.

If an exhibition hall is to approach the ideal, its plan must be that of a master mind, while in actuality it is the product of the correlation of many minds and hands. In all the museums of the world to-day

there are few halls that reveal a mastering idea and an interdependence of arts and crafts. Administrations change. One man's aim is replaced by an aim entirely different when another undertakes his work. The institution's inheritance of exhibits must usually be housed along with the new. Recently acquired specimens, satisfactorily mounted, are crowded in inadequate space and completely subordinate those specimens which, although they are of equal importance for the understanding of the spectator, give no illusion of life and have no appeal. Even when the architectural arrangement is good and the taxidermy acceptable, a heterogenous collection of exhibition cases or an inadequate lighting system may mar the harmony of the whole. Thus, there are plentiful opportunities in the meandering process, of which an exhibition hall is frequently the result, for the original plan to become fogged.

But no such conditions shall spoil the symmetry of Roosevelt African Hall. Every animal killed has been carefully selected with this great exhibit in mind. Each group mounted is being constructed as an integral part of the whole. A building has been especially designed to give the exhibit the most effective and appropriate setting. And the future is being insured by the training of men who shall carry forward the technique so far developed. Each man is carefully chosen. Each must have energy, common sense, a special ability, and a great love for the duties at hand. And although each may be a specialist in his own line, all are forming the habit

of working together as day by day they assemble the carefully tanned skins, the clean, well-shaped manikins, the silk and wax leaves and grasses, and the painted canvases for the backgrounds. For the first time we have the opportunity to train a group of men not only to practise the various arts which are combined in making modern zoölogical exhibits, but also to further develop the methods that make this sort of museum exhibition worth while from the scientific and artistic standpoint. In this considerable corps of men I am resting my hope that the technique of my studio shall be carried on to higher perfection instead of scattering or being carried underground when my part shall be done. This is important not only for Africa, but for all other continents as well, inasmuch as we are making records of rapidly disappearing animal life. From my point of view, this school of workers is perhaps the most important of all the results of the work on Roosevelt African Hall.

Every group in Roosevelt African Hall must be made by the men who make the studies in Africa so that the selection of environment, the background, and the story to be told shall be typical and so that every detail of accessory or background shall be scientifically accurate. It was formerly the custom, and is still in many museums, to send hunters into the field to kill animals and to send the skins back to the museum where a taxidermist mounts them. The taxidermist does not know the animals. He has no proper measurements for them. Usually the hunter does not supply them and, even if he does, they are

of little value; for one man's measurements are not often reliable guides for another man to work by. In making a group as it really should be done, we cannot rely on one man out in the field to shoot and another back at the museum to mount. The men who study the animal and who shoot him must come back and mount him, and the men who make the accessories and who paint the background must go and make their studies on the spot. When all this is done the cost of the skins, instead of being half the expense of a group, is not five per cent.

I shall make the gorilla group, on which I am now at work, a real example of the proper method. A gorilla group undertaken three years ago in the average museum would have been done in the following manner. Skins would have been purchased from hunters in Africa. The men who were going to mount them would have studied the available writings on gorillas. They would have found out that the gorilla was a ferocious animal who inhabited the dense forests and, like as not, that he lived in trees most of the time. And that is the kind of animal the group would have shown.

Not satisfied with such a method, I went to Africa to get acquainted with the gorilla in his home. I found him in a country of marvellous beauty, spending much of his time in the open forests or in the sunshine of the hillsides. I found, too, that he was neither ferocious nor in the habit of living in trees. He can climb a tree just as a man can climb a tree, but a group of human beings up a tree would be

as natural as a gorilla group in the same position.

The setting of the group of five gorillas is to be an exact reproduction of the spot where the big male of Karisimbi died. In mounting them I have my personal observation, my data and material to work from. My own measurements are significant and helpful. I have photographs of the scenery, the setting, and the gorillas themselves. I have photographs of their faces—not distorted to make them hideous but as they naturally were—and death masks which make a record that enables me to make the face of each gorilla mounted a portrait of an individual. All this makes these unlike any other mounted gorillas in the world. After all the work that I had put on them I was glad to get the corroboration of one who knows gorillas as well as T. Alexander Barnes. He had followed gorillas in the Kivu country where I got my specimens. As he looked at the first of the group standing in my studio, he exclaimed, "Well, thank God! At last one has been mounted that looks like a gorilla."

Still with all our work we are only well started on the gorilla group. The background—and it is a beautiful scene—must be painted by as great an artist as we can get and he must go to Karisimbi to make his studies. And the preparators who make the accessories—the artificial leaves, trees, and grasses—they, too, must go to examine the spot and collect their data, for every leaf and every tree and every blade of grass must be a true and faithful copy of nature. Otherwise, the exhibit is a lie and it would

be nothing short of a crime to place it in one of the leading educational institutions of the country.

But, someone will say, this is all in the future. What has already been accomplished? What definitely is the status of Roosevelt African Hall?

Well, I am mounting animals. The elephant group, the white rhinoceroses, and one of the okapi are completed and are now on exhibition. Work on the gorilla group is advancing rapidly. There are already collected and awaiting their turn to be mounted materials for a black rhino group and a lion group. I have estimated that it will require at least ten years and the expenditure of one million dollars to complete the work. And there is good reason to hope that the money needed will be provided. President Henry Fairfield Osborn in his Annual Report of the American Museum of Natural History for 1922 has called for a gift or a special endowment of one million dollars to finance and develop Roosevelt African Hall in addition to other funds now available, stressing this as the most pressing need of the Museum in the year 1923. The income from such a special endowment will enable us to complete the African Hall during the next decade and leave a million dollars of the new special endowment for the development of the new building to house the hall.

I am hopeful, too, that the Roosevelt Memorial Hall, out of which Roosevelt African Hall will open, is about to become a reality. The New York State Legislature will soon have before it a bill to appropriate two and one half million dollars for a memorial

to New York's great citizen. Such a building is one of two plans for this memorial now under consideration by the State Roosevelt Memorial Commission and there is much reason to hope that it may be favourably received by the people of the state.

I ought not properly to be writing autobiographical matter. That is usually a sign that a man is through and the truth is that I am just ready to begin my work. So far I have been studying my profession. Now I am prepared to practise it on one great example and in so doing to train men to continue my work so that the museums of this country can portray whatever of animal life they desire in a way that will have the greatest attraction and instruction for the public, both lay and scientific. It is chiefly in the hope of furthering that great project which must be undertaken now—a project to put into permanent and artistic form a complete record of the fast-disappearing animal life of the last stronghold of the Age of Mammals—that I write these things. Enough has been said to indicate that this is not one man's task. It may not even be accomplished by several men in the span of one man's life. But the future will show concrete results, for the slowest and most laborious stages of preparation are now in the past. Years of experimentation have perfected taxidermy, years of observation in the field have made a true conception possible, the American Museum of Natural History has committed itself to the plan—in a word, I am about to realize my dream.

THE END